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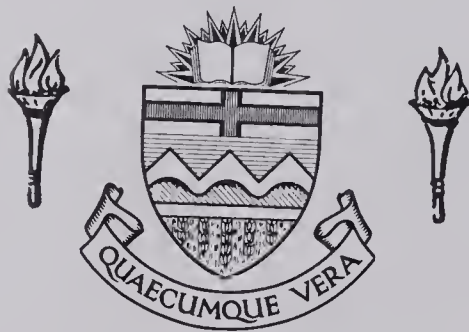
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THE UNIVERSITY OF ALBERTA

ATTITUDES OF MALES TOWARD SELECTED ASPECTS OF  
PHYSICAL EDUCATION

by



MAUREEN O'BRYAN


A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
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OF MASTER OF ARTS

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The undersigned certify that they have read and recommend to the Faculty of Graduate Studies for acceptance a thesis entitled "Attitudes of Males Toward Selected Aspects of Physical Education," submitted by Maureen O'Bryan in partial fulfillment of the requirements for the degree of Master of Arts.

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## ABSTRACT

The Semantic Differential was used to investigate attitudes held by male groups in Edmonton, Alberta towards selected aspects of physical education. The groups were: Grade XI Boys; First Year Physical Education students; Third Year Physical Education students; Graduate Students; Academic Staff; School Teachers. The Grade XI Boys and School Teachers were sampled from the Edmonton Separate Schools Board system. All remaining subjects were obtained from the University of Alberta. Those groups representing the graduate students and academic staff did not include members from the Faculty of Physical Education. None of the school teachers was engaged in physical education.

All subjects were asked to complete 25 scales on each of the following aspects: The Faculty of Physical Education; The Male Physical Educator; The Female Physical Educator; The Physical Educator as Coach; The Degree of Bachelor of Physical Education.

The sample was composed of 50 males selected by random sampling from each population. This yielded 300 subjects responding to 25 scales across 5 aspects.

Data were collected during April and May, 1967 and were later subjected to factor and statistical analyses. Factor analyses resulted in the appearance of evaluative, activity and potency dimensions. Scales were grouped into the dimensions according to their factor loadings. Means and standard deviations were calculated for scales and dimensions. All dimensions were used to examine homogeneity of meaning within the groups. Evaluative dimension scales were graphed and profiles were drawn to illustrate



attitudinal patterns.

Homogeneity of meaning ( $SD \leq 1.5$ ) was found to exist generally among the groups.

A consistent pattern of attitude favorable to physical education was revealed. Intensity of attitude varied, with Grade XI Boys exhibiting the most favorable attitudes, while Graduate Students were generally least favorable.

It was suggested that areas of future research could include factorial examination of the evaluative dimension; investigation of the trend away from whole hearted favorability evident among Third Year Physical Education students and Graduate Students; and longitudinal studies within the Faculty of Physical Education to investigate attitude change.



## ACKNOWLEDGEMENTS

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## CHAPTER I

### STATEMENT OF THE PROBLEM

Various physical education journals reflect a continuing and growing regard for the need to establish a positive public image of physical education. Willee (47:23) reported that the prime concern of the Sixth National Conference of the Australian Physical Education Association was with:

The ignorance of Physical Education shown by people at all levels outside the profession and the consequent need for good public relations to change current widespread views about the discipline.

However, little has been written about the nature of the "current widespread views". Indeed, it is difficult to find definite statements or delineations of how these views were derived, collected, measured, or even what they are. Nevertheless, they are conceived to be unfavorable to physical education. Pavlich (30:124) writes, "We are all aware of the enormous amount of astringent criticism levelled against our professional body, mind and spirit." She reports Conant as regarding physical education as an unworthy field for graduate study.

Ann Wagner (43:169) notes that:

We find ourselves faced with the challenge once again of defending our programs against attacks by academicians on all fronts who would stress the acceleration of intellectual productivity.

This implies that physical education is, in the minds of some academicians, of lower worth than the traditional intellectual subjects. It follows that such persons are likely to regard the physical educator as



less valuable than the teacher who accelerates "intellectual productivity". Such an attitude might well prove damaging to attempts made by physical educators to develop good public relations. Indeed, should the attitude be unfavorable and general throughout the community, it would be difficult to upgrade the status of physical education. Consequently, a need exists to investigate the nature of public attitudes towards physical education.

## I. THE PROBLEM

Since there appears to be concern among physical educators regarding the impression the profession is creating among members of the public, the purpose of this study is to investigate attitudes held by Grade XI boys, First Year and Third Year male physical education students, male graduate students, academic staff and high school teachers to the following aspects of physical education in Edmonton, Alberta: (1) the Faculty of Physical Education, (2) the male physical educator, (3) the female physical educator, (4) the physical educator as coach, and (5) the Degree of Bachelor of Physical Education.

### Sub-problems.

1. To determine if significant differences exist between the attitudes held by each group towards each aspect of physical education.
2. To determine whether attitudes within each group vary significantly between the aspects of physical education.
3. To investigate the usefulness of the Semantic Differential as a measure of attitudes towards aspects of physical education.
4. To examine the meanings of the aspects of physical education





along dimensions of favorability/unfavorability; potency/impotency; activity/passivity.

5. To investigate the relative homogeneity of meaning that such aspects hold for the various groups.

#### Value of the Study.

The determination of group attitudes towards aspects of physical education would result in some clarification of the image the profession is presently creating in the community.

Information which may be of value to physical educators in the development of good public relations would be provided. Furthermore, a basis would be established for longitudinal study of changes of attitudes towards physical education within the aspects studied, since scales of the Semantic Differential are held to be capable of reflecting changes in attitude. (29)

As a result of the study the knowledge gained of the Semantic Differential as an attitude index should provide grounds for its consideration as an instrument for future use in studies of this kind.

#### Delimitations.

The study is confined to male groups selected from the City of Edmonton, and is concerned only with selected aspects held to be important features of the physical education image.

#### Limitations.

1. One type of measurement instrument of attitudes is employed. This is the Semantic Differential.



2. Results are dependent upon the validity of the instrument and the reliability of the subject's responses.

3. The aspects selected cannot be regarded as formulating the basic or only foundation of the physical education image.

4. Assumptions of the meaning that each aspect holds for groups and group members are based on the position taken by Osgood, Suci and Tannenbaum (29).

## II. OPERATIONAL DEFINITIONS

Physical education. The profession concerned with the education of people in the development and achievement of human motor performance in physical activities.

Profession. A vocation or occupation requiring advanced training in some form of higher learning such that the occupation involves a high degree of skill at an intellectual level.

Semantic space. General: A region of unknown dimensionality, Euclidian in character, defined by the number of orthogonal dimensions, passing through its origins.

Particular: A cubical volume of space defined by the axes of the dimensions of activity, potency, and evaluation.

Evaluative dimension. A major dimension of semantic space reflecting judgements relative to favorability and unfavorability.

Activity dimension. A major dimension of semantic space reflecting movement, sharpness and acuity.

Potency dimension. A major dimension of semantic space reflecting





power and strength.

Meaning. That point in semantic space identified by its coordinates on several factors.

Attitude. The projection of a point in semantic space onto the evaluative dimension of that space.

Significate. A stimulus which regularly and reliably elicits a predictable pattern of behaviour.

Sign. A previously neutral stimulus which, after pairing continguously with a significate is capable of eliciting part of the total behavioural pattern elicited by the stimulus.

Representational Mediation Process. The process through which a sign is formulated.

Physical Education Image. The total behavioural pattern elicited in a person by the linguistic sign "Physical Education".

Aspect. A qualification, organisation or person related to physical education.



## CHAPTER II

### REVIEW OF THE LITERATURE

#### Attitude.

The study of the psychological construct known as attitude has had a long and checkered history. Spencer (1) reported the relationship of attitudes to belief in 1862. Half a century later, in 1918, attitude became a variable relevant to psychology when Thomas and Zaniecki (1) defined social psychology as the "scientific study of attitudes".

It is likely however that measurement of attitudes first came of age after Thurstone (42) and his colleagues provided a systematic scaling procedure. Previously, survey methods had been used, so that little concern was shown for the psychological processes underlying an individual's expression of his attitudes. (10)

During the 1950's there was increased concern with the fundamental psychological correlates or factors underlying attitudes. This led to Eysenck's (11) organisation of the generality and specificity of attitude into four levels. He placed ideology, or super attitude, at the most general level. Ideology would thus tend to control or govern the actions of a person holding the particular bias. At a more specific level, Eysenck postulated the "attitude" stage. This, he said, referred to feelings of ethnocentrism, patriotism, etc. He places "habitual opinion" at the next level, while his most specific form of attitude is labelled "specific opinion". Thus Eysenck has postulated the existence of a hierarchy within





an attitude dimension, such that specific attitudes may be indicative of general attitudes which in turn partly determine the nature of the lower order opinions. Such an approach suggests that factor analyses applied to data obtained would result in the appearance of several differentiated levels. This proved to be so in an investigation by Cattell (6). To some extent, this explains the large number of definitions of attitude which abound in the literature.

Thurstone (42) had earlier defined the dimension as "the intensity of positive or negative affect for or against a psychological object".

Remmers (10:42) was more specific in his statement that attitude is "an affectively toned idea or group of ideas predisposing the organism to action with reference to specific attitude objects".

Doob (9) defined attitude as an implicit, drive producing response considered socially significant in the individual's society. By "implicit response" he meant a response occurring within an individual and not immediately observable to an outsider. Motor attitudes like the physical set of an athlete taken before the start of a race are therefore excluded from the definition. An implicit response may be conscious or unconscious, verbal or non verbal. Further, Doob suggests that an implicit response may be both anticipatory and mediating. It is anticipatory in the sense that an individual who dislikes (has an aversive attitude to) a certain type of movie will tend to avoid attending movies of that type. The mediating aspect of attitude refers to the phenomenon of attitude affecting the overt response to a behavioral situation. A favorable attitude to a social institution can mediate innumerable responses connected to that which the organism



holding the attitude considers to be in the best interest of the institution. Believing that attitudes are learned responses, Doob suggests that previous learning will determine whether or not a particular stimulus pattern will evoke the attitude. The stimulus pattern may be a word, a sentence or some other symbol such as a flag or picture. He contends that a useful test to decide whether an implicit response is indeed an attitude is to discover whether that response is labelled desirable or undesirable by the response maker's contemporaries. In other words, attitudes are held to possess a social component. Almost always, according to Doob, the socially significant in a society is evaluated to indicate its potential or actual effect on people. This suggests that in any given segment of a society at any moment, people are likely to acquire attitudes because they are subjected to similar learning conditions.

Osgood, Suci and Tannenbaum (29) presented a basically similar approach to the definition of attitude. In summing up the "plethora of definitions" (29:189) they suggested that most authorities agreed upon the premise that attitudes are learned and implicit so that they are inferred states of the organism, acquired in a manner similar to the acquisition of other internal learning.

Osgood et al. (29) see attitudes as predispositions towards evaluative responses. This implies acceptance of the definitions incorporating tendencies of approach or avoidance, but they then postulate a direction and intensity of attitude such that it is an implicit process having reciprocally antagonistic properties and varying in intensity.





### Attitude Measurement.

Various forms of attitude scales are reported in the literature.

Chief among the traditional measures are:

1. The method of paired comparisons (42).
2. The method of equal appearing intervals (42).
3. The method of successive intervals (33).

Thurstone's (42) method of equal appearing intervals has been the most widely used attitude scale. The first step involves collecting a large number of statements representing various opinions held. These statements are then given to a number of judges, who are asked to sort them into eleven piles according to the position represented by each statement. Statements representing the most extreme positions on the aspect are to be placed in the end piles, while those representing the neutral or moderate positions are to be placed in the middle.

When there is considerable disagreement among the judges about the position of a particular statement, it is discarded. The final scale is composed of eleven or more statements that represent clearly defined positions on each issue. Each of these final statements is then assigned a scale value based on the median scale position given by the judges. If half the judges for example had assigned a particular statement to position three or lower and half had assigned it to a position four or higher, the median, or scale position, of the statement would be 3.5. When the test is administered the subject is asked to check all the statements with which he agrees. For each subject, then, a scale position is computed as the average of the scale values of all the items checked.



There have been several objections raised against the use of this type of scale. It involves a considerable amount of work in its construction, and its method of arriving at a score for a given individual may be so interpreted as to produce varying attitude patterns. This amounts to the probability that identical summed scores do not reflect identical attitudes.

A type of scale commonly used in social attitude measurement is the summated scale, which follows a pattern devised by Likert (22). In such a scale, the subjects are asked to respond to each item in terms of several degrees of agreement or disagreement, usually upon a five point scale. Summed scores are analysed to determine which items discriminate most clearly between the high scorers and the low scorers. These items are retained so that the scale is caused to become internally consistent in that every item is related to the same general attitude.

Cumulative scales, first attempted by Bogardus (3), investigate an individual's attitude by counting the number of items he answers favorably, thus placing him upon a favorable-unfavorable continuum. Generally this test is most valuable in assessing the extent of prejudice.

Guttman (6) developed the scalogram method which attempts to ascertain whether the attitude or characteristic being measured actually involves a single, unified dimension. This allows a prediction of the items to which an individual will react favorably. Each individual is compared with each statement. If he agrees with the statement, he is assigned a weight of 1 and if he disagrees he is assigned a weight of 0. The weight of each individual's responses to the statements are summed and if the statements fall





along a single dimension, then a perfect rank order scale would result.

However, it is not known in advance that a given set of attitude statements necessarily fall along a single continuum from least to most favorable. It becomes the purpose of the scalogram analysis to determine if the responses of the subjects to the statements are in accord with the hypotheses of the single dimension.

The degree to which the subject's responses are in accordance with those of the scale model is Guttman's coefficient of reproducibility (C.R.).

The minimal marginal coefficient of reproducibility which is possible to obtain with a given set of statements having known frequencies in each of the categories of responses, can be determined by the following procedure:

1. Finding the proportion of responses in the model category for each statement.
2. Sum the values and divide by the number of statements.
3. The resulting value is the minimal marginal reproducibility (M.M.R.) for the set of statements.

The value of the minimal marginal reproducibility is that it can be compared with the coefficient of reproducibility after computing for error, to note the improvement in predictions gained from a knowledge of the total scores. If a scale has a large difference between the two, with a low M.M.R. of possibly .68 and a high C.R. of .90, then this would constitute a good scale. If the C.R. is less than .85 the set of statements are said to constitute a quasi-scale. In the case of quasi-scales the scores of subjects are believed to be determined by one major variable and a number of minor variables. This indicates that the statements in part would have to be re-analysed and reworded in order to deal with the main





variable before the scale would be considered reliable.

The Semantic Differential of Osgood et al. (29) is an operational measure of their theoretical position on meaning. The attitudinal component is its evaluative dimension of semantic space.

#### Derivation of the Semantic Differential.

According to Osgood (28) when a certain stimulus regularly and reliably elicits a predictable pattern of behavior, this stimulus is called a significate. When some other stimulus is paired contiguously with the significate it may acquire an amount of association with the pattern of behavior elicited by the significate. This is the representational mediation process and it is the basis of the theoretical rationale of the Semantic Differential.

An example of this process occurs when a small child learns the 'meaning' of the word 'ball'. Initially, presentation of the object 'ball' (a significate) elicits certain behavior (squeezing, bouncing, rolling, etc.). Frequent pairing of the word 'ball' with the object results in the attachment of anticipatory squeezing and rolling response to the word alone, even in the absence of the real object. In this way, the word becomes a sign of the actual object.

A word is said to have 'meaning' when it shares common mediational processes with a significate or a meaningful sign. Consequently, a particular word will have a range of 'meaning', since it evokes mediational processes associated with a number of significates and other signs. Figure 1 (28:631) represents diagrammatically the way in which a single verbal sign (STICK) may be associated with a number of 'ways of perceiving', each of which is,



in turn, associated with a number of 'potential functions', so that the single word may come to have a wide range of 'meanings'.

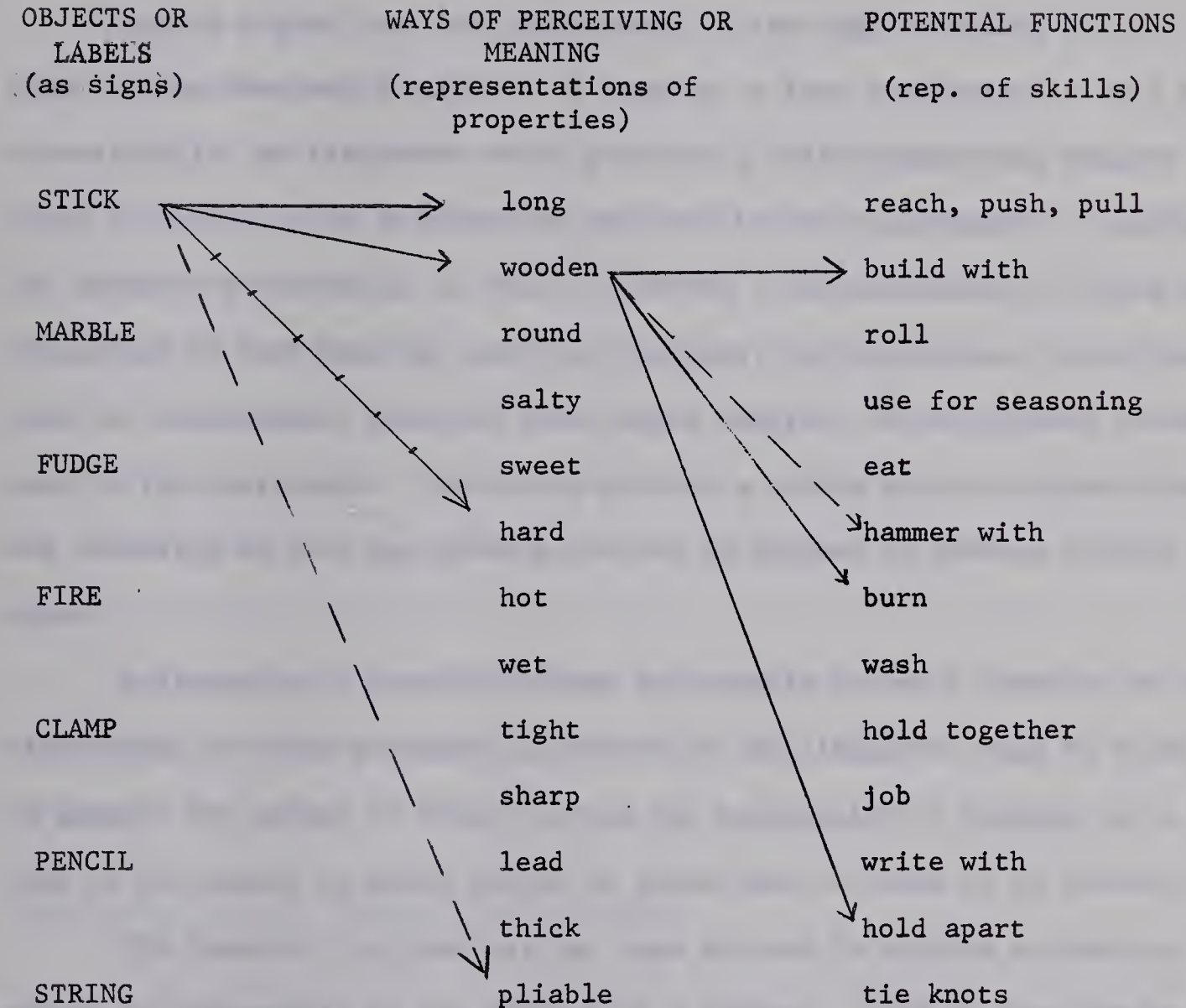


Figure 1. (28:631) Mediational model of problem-solving. Objects (or labels of objects) as signs are associated with hierarchies of representational mediators (ways of perceiving objects or their significance) which in turn elicit readiness for executing a hierarchy of instrumental skills.

How much of and how strongly behavior is elicited depends on the nature of the total behavior occurring while the sign (the second stimulus paired with the significate) is being established. Words are common forms





of such signs. Consequently it is suggested by Osgood that the meaning of any linguistic sign will depend largely on the nature of the total behavior occurring while the representational mediation process is taking place.

Osgood argues that any measurement of the sign's meaning must be made on some observable output. If meaning is then considered to vary multi-dimensionally, an instrument which provides a multi-dimensional measure of signs is likely to be an effective approach to the measurement of meaning. The Semantic Differential is held to provide a representation of three major dimensions of word meaning: activity, potency, and evaluation. Each dimension has consistently appeared upon factor analysis of the bipolar scales used in the instrument. The scales provide a rating which includes direction and intensity so that any given scale can be graphed to produce a point in space.

Differences in meaning between individuals become a function of the differences in their personal allocation of the linguistic sign to a point in space. The extent to which a group has homogeneity of meaning for a concept is the extent to which points in space tend to cloud or to scatter.

The Semantic Differential can thus be used to provide evidence of the extent of homogeneity of the meaning of a concept. From it also can be measured the attitudes of the group towards the concept.

Attitude is considered to be but one dimension of meaning and as such it provides part of the information needed to locate meaning in the semantic space. People may have identical attitudes towards a concept but have quite different meanings for it. The same attitude need not necessarily imply the same meaning, but identical meanings would constitute an





identical point in the semantic space and thus imply identical attitudes.

If attitudes are regarded as learned and implicit and inclining towards an evaluative response, tendencies of approach and avoidance can be measured. A set of bipolar scales with a zero point enables the measurement of direction and intensity.

Under factor analysis, the Semantic Differential provides an evaluative factor which can be regarded as the attitudinal dimension. Meaning was described as a point in multidimensional space. Attitude is defined as the projection of that point onto the evaluative dimension. Since every point in the semantic space is held to have such a dimension, each aspect to be measured has an attitudinal component as part of its total meaning.

To index such an attitude, a set of scales which have high loadings on the evaluative factor and low loadings on the other factors is required. If such a set is available it will provide the basis upon which comparisons among groups and concepts can be made regarding direction and intensity of attitudes.

#### Reliability of the Semantic Differential.

Osgood, et al. (29) asserted that the usual methods of computing reliability coefficients do not succeed with semantic differential data because scores are "too consistent, resulting in variances of almost negligible magnitude". (29:127) As a measure of score stability from test to retest, they employed a score reproducibility criterion (*ibid*) as a means of matching score deviations of a given size against the probability of obtaining deviations of that size. In support of this method of estimating the reliability of the Semantic Differential, Osgood, et al. cited their first factor analytic



study. Using one hundred subjects and a forty-item test yielding an  $n$  of 4,000, they observed that "the mean of the observed average deviation for items is .67 scale units whereas the mean of the expected average deviations for items is 1.20 scale units". (29:129-130) This results in a test-retest reliability of .85.

Jenkins, Russell and Suci (18) used 360 words as stimuli for an extensive investigation of Semantic Differential reliability. Forty subjects were asked to rate each of the words over 20 scales. After four weeks they were retested on the same words over the same scales. Test-retest reliability was .97.

Grigg (14) investigated test-retest reliability of the instrument in a study using 40 subjects over a time lapse of two days. He found that the reliability was .96.

Norman (27) used 30 subjects on 20 concepts over 20 scales. After initial administration of the items a period of four weeks elapsed. Upon retest, a reliability of .97 was found for group means. Scale means reliability was .96. Norman used 30 of the same subjects employed by Jenkins, Russell and Suci (18) in their 1958 study. These subjects when retested one year later revealed a test-retest reliability of .94. Thus Norman demonstrated high Semantic Differential reliability over a variable time lapse. His study indicated that the instrument possesses good stability and high reliability.

The present study provides least estimates of reliability from the factor analyses of the scales. Since a factor pattern of any test is composed of common variance, specific variance and error, it is similar to reliability which reflects the true variance of the test. The error is the





same for both the factor pattern and the reliability. The communality (the sum of the squared common factor loadings) is part of the true variance of tests and as such is part of the reliability rating. Accordingly, reliability of a test cannot be lower than the communality of its factor pattern.

### Validity.

No acceptable independent criterion of meaning or attitude is available. Consequently face validity is the principal form of validity associated with the Semantic Differential.

Moss (25) reports a study which paired adjectives representative of attitudes with stimulus material so that the subject was conditioned to acquire a particular attitude. The subject later reflected this attitude on the Semantic Differential. This, it is suggested, represents concurrent validity.

The best indication that the scale is a valid instrument lies in the fact that it can be demonstrated that the reversibility of measurement operations, a direct test of validity, is successfully achieved when the number of concepts judged is small and highly varied in meaning.

### Attitude and Physical Education.

Ingram (17) demonstrated that any occupation which created a public image was highly dependent upon its public relations. Hence any attempt to improve a professional image, he contended, should begin with a survey of attitudes, the results of which would assist in planning the attempted improvement.





Very few studies have been conducted around the assessment of public attitudes towards the aspects proposed in this investigation. Instead the majority have concerned themselves with the reactions of participating college students towards courses, programs and instructors. As such, the following review presents a catalogue of these studies.

Investigations using female subjects at the college level are quite extensive, usually involving large samples representing the women taking compulsory physical education. Many of the studies are unpublished theses, but the findings are generally consistent with published reports.

Bell and Walters (2) examined freshmen women and senior women students who had taken compulsory physical education courses. They found that the freshmen had a more favorable attitude towards physical education than the seniors. The authors concluded that there was a relationship between attitude and the extent to which the student enjoyed physical education classes, and the extent to which the instructors were interested in the student as an individual.

Moore (24) found a highly favorable attitude towards physical activity even though 50% of her subjects spent less than four hours per week on such activity as a means of recreation.

Broer, Fox and Way (4) investigated college attitudes towards physical education activity and found them to be very favorable in that it seemed physical education activity classes contributed to social development, and to mental and physical health of the individual. Students in swimming and tennis seemed to have a more favorable attitude than those in other activities, while those in archery exhibited the least favorable response.



Graybeal (13) had found as early as 1936 that female participation in courses of physical activity enhanced appreciation and favorability of attitude to physical education. Her findings were supported one year later by Wiedemann and Howe (46). Among a number of unpublished studies are included those of Plummer (31), Hunter (16) and Merrit (23). Each reported generally favorable attitudes towards physical education among college women.

None of the investigators examined the attitudes of their subjects towards the generalized aspects of physical education included in the present study.

In order to determine male student attitudes toward required physical education at the University of Minnesota, Smith (38) presented a questionnaire to 650 students. He found that 91% of the sample enjoyed the program.

Nelson (26) reported the attitudes of two male groups towards physical education. Students who substituted reserve officer's training corps membership for physical education showed a much less favorable attitude towards sports competition, games, and athletics than those who did not substitute R.O.T.C. for physical education activities.

Casaday (5) suggested that most college students have a favorable attitude towards physical education. Students with a background in physical education and sports have a more positive attitude than those without this background. He found also that the most recent physical education class is very important in determining the individual's present attitude.

Investigating male and female attitudes, Keogh (19) used the Wear Physical Education Attitude Inventory to find that high scorers reported





themselves to be physically active and highly favorably disposed towards such activity. The low group was also physically active but was very critical of the high school physical education program. Squires (39) used the same instrument on high school boys and found similar results.

From the foregoing it will be seen that few published reports of attitude investigation are available and that generally the investigators are basically concerned with the activity facet rather than the professional image of physical education. Further, most of the studies reported made use of self-developed questionnaires for which reliability and validity figures are either not reported or not investigated. Few studies have attempted to compare the attitudes to physical education held by different sub-groups.





## CHAPTER III

### METHODS AND PROCEDURES

#### The Instrument.

Twenty-five bipolar scales (Appendix I) were drawn from various studies (15), (29), (34) which have used the Semantic Differential.

Most of the scales have loaded on the evaluative factor in the studies referred to, but since homogeneity of meaning towards aspects is included in the present study, some scales from the activity and potency dimensions have also been included. Factor analysis was used to analyse the responses made by all groups towards each aspect to provide dimensions for the semantic space appropriate to each aspect. Those scales loading on the evaluative dimension were then used to investigate the attitude of each group towards the aspect.

#### Administration.

Where possible the instrument was administered to groups at each session. Where grouping was not feasible, the Semantic Differential was given individually. All instructions are written, and a standardised method of introduction was devised. (Appendix I)

#### The Aspects.

The basis upon which the aspects were selected is somewhat arbitrary in that they are considered by the investigator to be central to the physical education profession. It is clear that other aspects might have been



chosen, but the limitations referred to in Chapter I have been imposed so that five aspects were used.

In summary form, the aspects are:

1. The Faculty of Physical Education.
2. The Male Physical Educator.
3. The Female Physical Educator.
4. The Physical Educator as Coach.
5. The Degree of Bachelor of Physical Education.

It is felt that attitudes to the practitioners of a profession are basic to an investigation of the image it is creating in the community. Consequently both male and female physical educators have been included. The Bachelor of Physical Education Degree has often been the subject of controversy (30) and because it represents the most usual form of entry into the profession in North America it is thought to be a justifiable inclusion. Since Edmonton is a university city and in view of the fact that the Faculty of Physical Education provides the courses and facilities for the study of physical education as well as recommending its successful students for degrees, there appears to be justification for the inclusion of the Faculty as an aspect central to the profession in Edmonton. Because considerable time of the physical educator is spent after hours in coaching teams, it is felt that the coach may be creating an image among some of the groups involved in the study. Consequently the physical educator as a coach represents the fifth aspect studied.

Since the nature of the Semantic Differential is such that it measures the meaning each concept holds for a given subject, it is redundant to attempt





definitions of the concepts beyond the basic linguistic signs.

### The Samples.

Attitudes of 300 Edmonton males, divided into 6 groups of 50 persons each, were investigated. The subjects were chosen using a process of random selection as described by Wallis and Roberts (44). This process involves the allotment of one number to each member of the population to be sampled, after which a table of random numbers was used to select the sample. Initially, 75 persons from each of the large populations were selected so that a final return of 50 protocols could be obtained. In cases where more than 50 were returned, the same process was used to reduce the number to the required size. In the case of groups whose population did not exceed 75, all members were asked to take the instrument, after which random selection was employed.

It was decided to use only male members of the community because it was felt that the study would become unwieldy were sex included as a variable. The greater number of males available in the majority of the groups to be investigated influenced this decision. The groups are as follows:

1. Grade XI students.
2. First year physical education students.
3. Third year physical education students.
4. Graduate students excluding physical education.
5. Academic staff excluding physical education.
6. Junior and senior high school teachers excluding physical education.





### Criteria for the Selection of Samples.

The samples, like the aspects, have been arbitrarily selected by the investigator. Each is either directly concerned with physical education, or is an influential section of the academic community, or represents a large group within the academic community.

Grade XI students were selected for investigation because they represent the last grade required to participate in physical education classes in most cases. They have been subjected to physical education throughout their school careers. The boys themselves were drawn from the following schools: Archbishop MacDonald High School, Austin O'Brien High School, O'Leary High School, St. Francis Xavier, St. Joseph's and St. Mary's. This represented all the Senior High Schools of the Edmonton Separate School Board.

First year physical education students had completed one year of professional education at the time of investigation. The self concepts and attitudes of this group were considered likely to provide a number of insights and indicate differences when compared with those of the third year physical education students who constitute the next sample. Third year students are about to enter the profession and are thus considered to be a fruitful source for the study of attitudes towards physical education.

The physical education sample represented the first year and third year population of such students at the University of Alberta, Edmonton during the academic year 1966-67.

Graduate students of the University of Alberta, Edmonton, enrolled during 1966-67 represented a varied and influential section of the university



body, and their attitudes were considered likely to reflect the image the profession is creating in the academic community. The following areas of study were represented by the graduate students: Agricultural Economics; Animal Science; Biochemistry; Biology; Business Administration and Commerce; Chemistry; Civil Engineering; Classics; Dentistry; Educational Administration, Foundations and Psychology; Elementary Education; English; Geography; Germanic Languages; History; Mathematics; Pharmacology and Philosophy. Physical education graduate students were excluded from the sample.

In view of the fact that the academic staff comprised a major section of the University of Alberta, and consequently are important to a description of the physical education image in a university city, it was felt necessary to include a sample from the University. As in the case of the graduate students, physical education faculty members were excluded. The sample was thus drawn from faculty members on campus in 1967. The following faculties were represented: Arts; Agriculture; Business Administration; Dentistry; Education; Engineering; Law; Pharmacy and Sciences.

It seemed logical to include a group of practising teachers in the study. Teachers have a close contact with physical education and with the physical educator. Their attitudes towards the profession are likely to materially affect its prestige in the educational system, and consequently, it was felt that these attitudes were worthy of investigation.

Twenty-five teachers were drawn from all of the high schools and 25 from a randomly sampled six of the junior high schools of the Separate School Board. The subjects were randomly selected from the staff registers of each school. No physical education teachers were included.







The following sources were used to determine the populations from which the samples were drawn:

1. Edmonton Separate High School class lists.
2. Faculty of Physical Education class lists.
3. University faculty and graduate student lists.
4. Edmonton Separate School Board staff registers.

Data were collected during April and May, 1967.

#### Treatment of the Data.

Factor Analysis. The variance of a set of obtained scores for a given test is composed of true variance which arises out of individual differences occurring between the subjects, and error variance which is the result of measurement error. Where correlation exists between a number of measures, part of the true variance will be common to at least two of the tests. Additionally, each test will have some specific variance. The common variance is of prime importance to the rationale underlying factor analysis which is based on the assumption of reflection by the intercorrelations of a common variable which the correlated tests are measuring to some extent.

While none of these tests needs to be a pure measure of the hypothetical variable, it may be compared with other tests loading on the same factor. Thus the procedure of factor analysis assists in the reduction of a number of tests to a lesser number of dimensions, hypothetical variables or factors, whose magnitude and identity are a result of the configuration of common variance among the tests. If such common factors can be found,



parsimony has been achieved. If meaning can then be given to the factors, some ordering of psychological thought can be derived from the domain under investigation so that new understandings of the measurement areas of, and relationships between, the tests may be gained.

Computations were carried out on the University IBM 7040 using programs developed by the research unit of the Faculty of Education. This was expected to yield the factors identified as evaluation, activity and potency. Scales which have positive loadings above .3 were combined to form indexes for each dimension. Scales which failed to contribute more than .3 to the particular factor were eliminated - no scale was used in more than one dimension.

Homogeneity of meaning was examined as follows:

1. Standard deviations were calculated for each scale on each dimension and summed over each group.
2. Mean standard deviations were calculated for each dimension over each group.

The critical level of standard deviation was set at 1.5 since this would include approximately 68% of the group across a spread of 3 scalar points. Scales which showed a standard deviation greater than 1.5 were regarded as reflecting a lack of homogeneity of meaning.

Groups with low mean standard deviations among the dimensions were considered to have a more homogenous meaning for the aspect than that of those groups with higher mean standard deviations.

Attitude was measured through use of the evaluative dimension as follows:

1. The mean score per group by scale was calculated and graphed





to show the vector of the attitude held by each group towards each aspect.

2. The mean score of the evaluative dimension for each group was calculated and graphed for each aspect.
3. Profiles were drawn for all of the scale means for each group on all aspects and, from these, a descriptive report of the differences occurring between groups on each aspect together with a report on each group's evaluation of the aspects in turn was written.





## CHAPTER IV

### RESULTS AND DISCUSSION

Results obtained are presented in two parts, the first of which deals with factor analyses of the total responses while the second is concerned with the statistical analyses of the dimensions.

#### I. FACTOR ANALYSES OF TOTAL RESPONSES

Five factor analyses were performed, one on each of the aspects under study. Factor loadings for both principal axis and varimax rotation procedures are shown in Tables I through V. In each case loadings have been rounded to two figures and all decimal points have been omitted.

It may be noted from observation of the unrotated factors that a very strong general factor exists in every case. The lowest eigenvalue reported for the first factor is 11.3 while the highest reported for the second factor is 1.4. This suggests that the chosen scales are basically representing a definite unified dimension which may broadly be labelled "evaluative". Nevertheless some scales show light loadings on the first factor, consequently the varimax rotation was used to investigate the possible presence of the other dimensions postulated by Osgood et al. (29).

As expected, a strongly loaded first factor remained after rotation. The scales loading on this factor were consistently those which Osgood et al. claim to represent the evaluative dimension. However, certain scales did not consistently appear on Factor I.



TABLE I  
TOTAL SAMPLE FACTOR ANALYSES FOR ASPECT I  
"FACULTY OF PHYSICAL EDUCATION"\*

Scales	UNROTATED FACTORS				ROTATED FACTORS				h <sup>2</sup>
	I	II	III	IV	I	II	III	IV	
int. - bor.	78	22	02	06	73	31	03	16	66
com. - inc.	74	06	24	01	76	12	15	05	62
unf. - fair	48	34	30	06	19	41	40	27	44
imp. - triv.	80	20	15	10	80	25	02	05	70
weak - str.	66	24	02	22	48	40	38	03	54
amb. - not a.	60	20	35	14	61	08	38	14	54
att. - rep.	72	06	11	20	58	46	10	11	57
rig. - flex.	35	05	54	31	07	69	04	19	51
hwk. - lazy	66	18	31	05	65	01	37	04	56
fol. - lead.	52	25	10	44	32	55	35	12	54
usf. - usl.	80	06	05	09	72	31	13	13	66
bad - good	73	13	15	14	59	45	02	18	59
mat. - imm.	82	06	01	00	72	30	13	22	68
pro. - n. pro.	77	13	19	10	78	09	07	17	66
ent. - unent.	77	12	13	02	69	19	31	15	63
pop. - unpop.	59	03	10	42	49	00	09	53	53
sec. - insec.	69	08	13	20	57	21	07	41	54
unint. - int.	70	21	01	03	66	28	05	18	54
masc. - fem.	06	69	05	04	11	02	68	02	48
dis. - like	76	03	25	10	55	51	11	28	65
n. aca. - aca.	7]	34	01	05	71	28	16	14	63
unp. - prej.	34	05	58	40	04	24	05	74	61
act. - pass.	51	52	02	21	30	06	61	33	57
succ. - unsucc.	80	05	10	29	73	03	24	38	74
eff. - ineff.	81	08	03	25	70	11	26	40	72
Eigenvalues	11.3	1.4	1.2	1.0	8.7	2.4	1.9	1.9	14.9

\*Note: In this and all subsequent factor analyses tables negative signs have been reflected.





TABLE II  
TOTAL SAMPLE FACTOR ANALYSES FOR ASPECT II  
"THE MALE PHYSICAL EDUCATOR"

Scales	UNROTATED FACTORS				ROTATED FACTORS				h <sup>2</sup>
	I	II	III	IV	I	II	III	IV	
int. - bor.	79	24	16	20	70	02	48	18	75
com. - inc.	79	15	06	05	72	20	27	16	66
unf. - fair	64	36	35	13	34	20	31	66	68
imp. - triv.	79	23	01	04	72	17	35	06	67
weak - str.	53	56	09	08	10	57	27	44	61
amb. - not a.	67	08	09	28	67	23	00	19	54
att. - rep.	72	09	18	27	49	28	56	01	63
rig. - flex.	43	05	03	57	12	08	69	14	52
hwk. - lazy	73	11	15	28	74	19	02	23	64
fol. - lead.	65	24	02	23	47	44	03	34	68
usf. - usl.	82	05	08	06	67	36	28	13	68
bad - good	78	14	05	08	52	34	37	34	63
mat. - imm.	81	09	12	05	72	20	26	25	68
pro. - n. pro.	81	27	01	10	80	20	24	03	74
ent. - unent.	76	02	15	16	64	43	17	08	62
pop. - unpop.	65	09	28	29	33	43	55	04	60
sec. - insec.	75	06	17	05	57	36	37	04	60
unint. - int.	84	18	18	06	76	09	36	24	77
mas. - fem.	49	37	48	02	13	73	23	03	60
dis. - like	74	02	02	25	49	23	51	24	61
n. aca. - aca.	76	23	16	06	72	05	34	18	66
unp. - prej.	37	51	57	01	14	06	03	84	73
act. - pass.	63	26	26	31	43	65	01	14	63
succ. - unsucc.	81	02	06	21	69	42	13	18	70
eff. - ineff.	82	04	10	10	69	39	24	12	70
Eigenvalues	12.7	1.3	1.1	1.0	8.3	2.9	2.8	2.0	16.2



TABLE III  
TOTAL SAMPLE FACTOR ANALYSES FOR ASPECT III  
"THE FEMALE PHYSICAL EDUCATOR"

Scales	UNROTATED FACTORS				ROTATED FACTORS				h <sup>2</sup>
	I	II	III	IV	I	II	III	IV	
int. - bor.	67	04	10	23	56	43	05	12	51
com. - inc.	76	11	10	01	63	29	33	09	60
unf. - fair	66	20	21	03	64	13	29	06	52
imp. - triv.	75	19	08	10	69	26	23	13	61
weak - str.	57	22	19	46	18	29	70	09	62
amb. - not a.	72	00	27	14	67	27	26	15	61
att. - rep.	61	16	35	04	27	63	12	20	52
rig. - flex.	43	29	34	08	11	61	03	07	39
hwk. - lazy	77	01	16	10	65	35	29	05	63
fol. - lead.	57	04	15	51	26	14	71	12	61
usf. - usl.	75	04	11	25	70	36	12	03	64
bad - good	79	00	05	09	54	39	42	08	63
mat. - imm.	79	12	04	08	67	35	26	12	65
pro. - n. pro.	77	19	17	15	76	23	23	06	68
ent. - unent.	79	19	08	11	57	53	27	12	68
pop. - unpop.	73	26	26	10	37	72	16	07	68
sec. - insec.	67	02	02	13	54	39	17	02	47
unint. - int.	76	20	14	04	57	37	28	33	65
mas. - fem.	25	45	67	21	04	19	04	85	77
dis. - like	78	16	24	00	41	66	26	15	69
n. aca. - aca.	66	43	02	13	70	12	11	34	63
unp. - prej.	44	33	06	41	29	05	52	34	48
act. - pass.	68	27	11	20	33	46	50	13	59
succ. - unsucc.	80	17	10	10	42	59	40	08	68
eff. - ineff.	76	27	10	12	35	63	40	02	68
Eigenvalues	11.9	1.2	1.1	1.0	6.7	4.4	2.9	1.3	15.2



TABLE IV  
TOTAL SAMPLE FACTOR ANALYSES FOR ASPECT IV  
"THE PHYSICAL EDUCATOR AS COACH"

Scales	UNROTATED FACTORS			ROTATED FACTORS			
	I	II	III	I	II	III	$h^2$
int. - bor.	79	07	18	64	46	19	45
com. - inc.	77	12	26	75	32	09	67
unf. - fair	73	12	00	48	05	50	54
imp. - triv.	73	12	06	51	51	14	54
weak - str.	74	14	18	39	07	60	60
amb. - not a.	64	20	21	46	46	28	49
att. - rep.	62	39	22	39	48	45	58
rig. - flex	21	55	34	07	21	64	46
hwk. - lazy	66	18	19	48	47	25	51
fol. - lead.	67	03	28	37	59	20	53
usf. - usl.	69	10	15	46	67	01	66
bad - good	79	27	19	77	37	09	74
mat. - imm.	77	07	03	62	47	02	61
pro. - n. pro.	76	06	05	61	45	00	58
ent. - unent.	73	24	23	76	25	02	64
pop. - unpop.	68	25	26	74	20	00	59
sec. - insec.	71	19	16	36	66	05	57
unint. - int.	71	12	30	32	71	10	62
masc. - fem.	40	33	43	23	35	52	45
dis. - like	83	15	02	55	62	13	71
n. aca. - aca.	64	21	02	39	52	18	46
unp. - prej.	37	31	25	01	04	57	29
act. - pass.	70	41	08	24	73	24	65
succ. - unsucc.	75	23	25	78	25	00	67
eff. - ineff.	78	21	23	79	30	01	71
Eigenvalues	12.0	1.4	1.1	7.1	6.2	1.3	14.5





TABLE V

## TOTAL SAMPLE FACTOR ANALYSES FOR ASPECT V

## "THE DEGREE OF BACHELOR OF PHYSICAL EDUCATION"

Scales	UNROTATED FACTORS			ROTATED FACTORS			
	I	II	III	I	II	III	$h^2$
int. - bor.	82	22	03	83	06	17	72
com. - inc.	85	12	05	82	16	19	73
unf. - fair	75	13	07	64	37	18	58
imp. - triv.	81	27	05	84	01	19	73
weak - str.	80	05	01	73	31	11	64
amb. - not a.	74	02	18	73	22	06	58
att. - rep.	81	10	05	78	18	19	67
rig. - flex.	27	02	89	10	10	92	86
hwk. - lazy	76	08	23	72	32	11	63
fol. - lead.	72	24	06	58	46	16	58
usf. - usl.	85	14	12	82	14	25	75
bad - good	85	07	16	79	21	29	75
mat. - imm.	86	06	13	80	34	00	75
pro. - n. pro.	83	19	11	85	10	03	73
ent. - unent.	81	03	11	77	30	02	68
pop. - unpop.	71	05	04	65	28	07	51
sec. - insec.	81	01	13	78	28	01	68
unint. - int.	81	02	09	77	25	04	66
masc. - fem.	19	75	06	06	77	07	60
dis. - like.	80	02	04	73	28	16	64
n. aca. - aca.	80	23	02	82	05	12	69
unp. - prej.	39	33	12	24	44	16	28
act. - pass.	64	36	10	46	54	18	54
succ. - unsucc.	82	11	02	73	38	11	69
eff. - ineff.	86	02	01	80	31	12	74
Eigenvalues	14.2	1.2	1.0	12.5	2.6	1.4	16.4



Indeed, these scales will be observed to hang together on one of each of the remaining factors, notably on aspects 2 and 3 where four factors appeared with eigenvalues greater than 1.00. An attempt was made to identify these factors by reference to the scales which consistently appeared on them. The scales included in the evaluative dimension are listed in Table VI, together with the scales included in the activity and potency dimensions.

The activity dimension appears to be represented by Factor III in aspects 1 (Faculty of Physical Education) and 3 (Female Physical Educator), and by Factor II in aspects 2 (Male Physical Educator), 4 (Physical Educator as Coach) and 5 (Degree of Bachelor of Physical Education). This decision is based on the appearance of active - passive on these factors. Other scales which consistently appeared on the same factors are follower - leader (aspects 2, 3, 4 and 5) masculine - feminine (aspects 1, 2, 4 and 5). No other scale consistently loaded on these factors. Consequently it was decided to eliminate the scales referred to above from the evaluative dimension and include them as a group representing the activity dimension.

The potency dimension is not clearly defined in this analysis. However, the dimension does seem to appear in aspects 1, 2 and 4 under Factors II, IV and III, respectively. Scales which appear to have some relationship to potency (defined by the weak - strong scale) are unfair - fair (aspects 2 and 4) and rigid - flexible (aspects 1 and 4). As a result of the analyses these scales have been regrouped to form a tentative potency dimension.

As expected, the largest dimension by far is that of evaluation.

(Table VI)





TABLE VI  
 DIMENSIONS AND SCALES AFTER  
 FACTOR ANALYSES

DIMENSION	SCALES
Evaluative	interesting - boring competent - incompetent important - trivial ambitious - not ambitious attractive - repulsive hard-working - lazy useful - useless bad - good mature - immature professional - non-professional enterprising - unenterprising popular - unpopular secure - insecure unintelligent - intelligent dislike - like non academic - academic successful - unsuccessful effective - ineffective
Activity	active - passive masculine - feminine follower - leader
Potency	weak - strong unfair - fair rigid - flexible unprejudiced - prejudiced



The appearance of a clearly marked factor labelled evaluation was to be expected since the majority of the scales used in the study were drawn from this dimension. Osgood, et al., (29) Hertzog (15) and Saruk (34) used similar scales to measure attitude. It appears that once again factor analysis has supported the use of the Semantic Differential as a suitable instrument for attitude study.

Less definitive, but nevertheless present, were the factors subsequently identified as potency and activity. It is, of course, possible to give these factors different labels. For example, the appearance of masculine - feminine on the activity factor might suggest that this could have been called masculinity, as did Hertzog (15:65). However, it was decided that the consistent linking with active - passive and follower - leader seemed to place it more with activity than with masculinity. In either case the distinction is not critical since Osgood, et al. (29) define meaning in terms of multidimensional semantic space. It is possible indeed that all three dimensions are considerably less than pure measures of evaluation, potency and activity, but for practical purposes the present factor analysis of the data has indicated once again their presence in the Semantic Differential.

Of the eighteen scales which consistently loaded on the evaluative dimension over the five factor analyses (Tables I to V) the lowest single factor loading was found on attractive - repulsive (.27) in aspect 3 (The Female Physical Educator). No other evaluative scale loading fell below .3 on any given aspect and the average of all such scales is in excess of .45. Since a level of .3 is regarded as representing a significant factor loading it seems reasonable to assume that the scales are indeed consistent with the





factor of evaluation.

The appearance of a fourth factor in three of the aspects (Faculty of Physical Education, Male Physical Educator and Female Physical Educator) and the fact that a number of the evaluative scales appeared on it, suggests that the evaluative dimension itself might be further subdivided. This would permit varying types of evaluation to be examined. For example, in "The Male Physical Educator" the scale bad - good has a consistently high loading on the evaluative dimension, but also loads on the fourth factor on which appear unfair - fair and unprejudiced - prejudiced. It may be that the scale bad - good has a moral judgement component which might be of an evaluative type. In "The Faculty of Physical Education" the scale popular - unpopular exhibits similar loadings on evaluation and on Factor IV upon which unprejudiced - prejudiced also loads. Again, this might indicate that the evaluative component may be carrying over to some form of social judgement factor. This suggestion does not conflict with the results of previous studies. Hertzog (15:57) found a number of factors which seemed to be somewhat evaluative but which were insufficiently clearcut to be labelled as such. He identified these factors as "democratic" and "femininity" since the scales loading on them had elements of evaluation similar to those normally associated with democracy and femininity. It is possible, in view of the results obtained in the present study allied with those of Hertzog and Osgood, et al. (29), that evaluative dimension scales may be re-analysed into a general evaluative factor (Hertzog, 15:57) and several subsidiary evaluative factors.

The same may also hold for the potency and activity dimensions and would not be contradictory to the position on meaning of Osgood, et al. (29).





The possibilities for future research arising out of the results of the factor analyses of the present data are discussed in Chapter V.

## II. STATISTICAL ANALYSES OF THE DIMENSIONS

As a result of the factor analyses, 18 evaluative, 3 activity and 4 potency scales were available for statistical treatment to determine means and standard deviations for each group on each aspect. Tables VII to XI present the results of the statistical analyses without regard to dimensionality. Table XII represents dimension means and dimension mean standard deviations for each group on each aspect.

To determine dimension means, each scale was arranged so that it lay along a favorable to unfavorable, active to passive or potent to impotent continuum. Thus, means below 4.0 indicate a general favorability, etc. while means above 4.0 indicate a general unfavorability, etc. The closer the mean approaches 7 the stronger this tendency becomes. Scale means were reflected.

The evaluative dimension is presented in full for each of the aspects in the form of profiles drawn for each of the groups in the sample. These profiles are shown in figures 2 through 6. So that a clearer illustration of the information might be made, the scale intervals between 1 and 5 were extended linearly and scales 6 and 7 abridged. This procedure was made feasible by virtue of no scale mean exceeding 5.2. Figure 7 depicts the evaluative dimension reflected means for each group on each aspect in turn.

The statistical analyses were carried out on the scales incorporated into the three dimensions so that a check might be made on relative homogeneity of meaning, attitudes to various aspects of physical education might



be investigated and differences between male community groups be noted, and that something of a composite picture of the physical education image might be drawn.

#### A. Homogeneity of Meaning.

The limited number of scales included from the potency and activity dimensions of other studies was reflected by the factor analyses in the present investigation. Eighteen evaluative scales, four potency scales and three activity scales were available for analysis. (Table VI)

In order to check for homogeneity of meaning, standard deviations for scales and dimensions were calculated, with a standard deviation of 1.5 being regarded as a workable limit of homogeneity of meaning.

Inspection of tables VII, VIII, IX, X and XI reveals that 86% of all the evaluative scale standard deviations did not exceed 1.5. Those which did exceed 1.5 were concentrated largely in Third Year Physical Education students and Graduate students. These groups accounted for 75% of the excessive standard deviations between them. No standard deviation exceeded the limit in either Grade XI Boys or First Year Physical Education students. Eighty-three percent of the activity dimension standard deviations were within the stated limit of 1.5. Those which were not were spread throughout all groups. Least homogeneity was shown through the potency dimension where 60% of the scales were below 1.5 SD. In this dimension the scale, rigid - flexible, accounted for 44% of the excessive standard deviations.

A clearer picture of relative homogeneity can be gained from Table XII where the aspect dimension mean standard deviations are presented. Only one mean SD is greater than 1.5 on the evaluative dimension; two exceed the limit







TABLE VII  
MEANS AND STANDARD DEVIATIONS ACROSS GROUPS\*  
"THE FACULTY OF PHYSICAL EDUCATION"

Groups Scales	Gr. XI		B.P.E. 1		B.P.E. 3		Grad. S.		Aca. Stf.		Sch. Trs.	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
int. - bor.	1.8	1.1	2.3	1.1	3.0	1.6	4.2	1.5	2.1	1.3	2.8	1.4
com. - inc.	2.0	0.9	2.6	1.1	2.7	1.1	3.9	1.9	2.4	1.2	2.5	1.5
unf. - fair	5.3	1.4	4.8	1.8	5.1	1.3	4.7	1.3	5.4	1.6	5.2	1.6
imp. - triv.	2.0	1.5	1.8	1.1	2.6	1.8	4.2	2.0	2.3	1.2	2.5	1.6
weak - str.	5.4	1.3	5.2	1.5	4.9	1.4	4.0	1.7	5.1	1.4	4.9	1.4
amb. - not a.	2.2	1.2	2.5	1.3	2.9	1.2	3.4	1.6	2.5	1.4	2.8	1.3
att. - rep.	2.2	0.9	2.2	0.8	3.1	1.3	4.0	1.2	2.8	1.3	2.8	1.3
rig. - flex.	4.4	1.6	4.7	1.8	3.8	1.6	3.8	1.3	4.0	1.8	4.4	1.6
hwk. - lazy	2.4	1.2	3.0	1.3	3.2	1.5	3.8	1.7	2.4	1.4	2.8	1.3
fol. - lead.	5.3	1.6	5.6	1.2	4.5	1.5	4.6	1.2	5.1	1.8	4.9	1.5
usf. - usl.	1.8	1.2	1.9	0.7	2.4	1.6	3.5	1.3	2.2	1.3	2.5	1.8
bad - good	6.4	1.0	6.1	0.7	5.5	1.4	4.8	1.2	5.8	1.5	5.4	1.4
mat. - imm.	1.9	1.0	2.5	1.0	3.4	1.3	4.3	1.7	2.2	1.2	2.9	1.6
pro. - n. pro.	1.9	1.1	2.3	1.0	3.4	1.8	4.2	2.1	3.1	1.6	2.5	1.4
ent. - unent.	2.1	0.9	2.5	1.0	2.9	1.4	3.5	1.6	2.9	1.0	2.8	1.3
pop. - unpop.	2.2	1.2	2.3	0.8	2.5	1.2	3.6	1.2	2.5	1.4	2.5	1.1
sec. - insec.	2.3	1.3	2.6	1.0	3.1	1.4	4.0	1.3	3.0	1.3	3.0	1.3
unint. - int.	5.9	1.1	5.4	1.1	4.6	1.6	4.1	1.6	5.3	1.5	5.0	1.8
masc. - fem.	3.2	1.2	2.8	1.2	3.2	1.3	2.7	1.0	2.4	1.3	3.1	1.2
dis. - like.	6.2	1.2	5.9	1.1	5.0	1.3	4.4	1.2	5.5	1.6	5.0	1.8
n. aca. - aca.	5.7	0.9	5.2	1.1	3.8	1.8	2.9	1.6	4.3	2.1	4.1	1.8
unp. - prej.	3.4	1.8	4.0	1.6	4.1	1.3	3.9	1.2	3.0	1.9	3.9	1.6
act. - pass.	1.9	0.9	2.3	1.2	2.4	1.4	2.2	0.9	2.0	1.3	2.5	1.0
succ. - unsucc.	2.0	0.8	2.3	0.9	2.6	1.2	3.3	1.1	2.5	1.3	2.5	1.0
eff. - ineff.	2.0	0.8	2.4	1.0	2.8	1.3	3.4	1.3	2.4	1.4	2.7	1.4

\*Note: In this and tables VIII, IX, X and XI scales and scale means are not reflected.



TABLE VIII  
MEANS AND STANDARD DEVIATIONS ACROSS GROUPS

"THE MALE PHYSICAL EDUCATOR"

Groups Scales	Gr. XI		B.P.E. 1		B.P.E. 3		Grad. S.		Aca. Stf.		Sch. Trs.	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
int. - bor.	1.7	0.7	2.3	1.1	3.6	1.6	4.7	1.8	2.2	1.3	2.7	1.4
com. - inc.	1.8	0.7	2.4	1.1	2.8	1.4	3.8	1.8	2.2	1.2	2.3	1.2
unf. - fair	5.7	1.2	5.5	1.3	4.8	1.2	4.6	1.2	5.3	1.6	5.3	1.4
imp. - triv.	1.8	0.9	2.1	1.1	3.0	1.6	4.3	1.9	2.6	1.3	2.5	1.4
weak - str.	6.0	0.8	5.6	1.2	5.2	1.3	5.3	1.2	5.5	1.4	5.5	1.3
amb. - not a.	1.7	0.8	2.6	1.3	3.1	1.4	3.6	1.4	2.2	1.1	2.5	1.5
att. - rep.	2.5	1.0	2.3	0.8	3.4	1.2	4.2	1.1	3.2	1.3	2.9	1.3
rig. - flex.	4.3	1.8	5.1	1.5	4.0	1.4	3.7	1.4	4.3	1.8	4.1	1.5
hwk. - lazy	2.1	1.2	2.7	1.1	3.2	1.5	3.8	1.7	2.3	1.4	2.6	1.4
fol. - lead.	6.1	0.9	5.2	1.5	5.1	1.4	4.7	1.0	6.0	1.3	5.1	1.7
usf. - usl.	1.6	0.8	2.1	1.0	2.8	1.5	3.6	1.6	2.2	1.2	2.5	1.6
bad - good	6.2	1.0	5.7	0.9	5.0	1.3	4.5	1.0	5.7	1.2	5.4	1.4
mat. - imm.	1.8	1.0	2.4	0.9	3.5	1.6	4.2	1.6	1.9	1.2	2.9	1.5
pro. - n. pro.	1.8	1.0	2.3	0.9	3.4	1.7	4.5	1.9	2.2	1.3	2.6	1.2
ent. - unent.	2.1	1.2	2.5	0.9	2.9	1.3	3.5	1.4	2.4	1.2	2.6	1.2
pop. - unpop.	1.9	1.0	1.9	0.8	2.5	1.2	3.1	1.3	2.1	1.2	2.4	1.0
sec. - insec.	2.1	1.0	2.5	0.9	3.1	1.3	3.9	1.4	2.5	1.4	3.0	1.4
unint. - int.	6.1	1.0	5.7	0.9	4.5	1.6	3.9	1.6	5.9	1.1	5.2	1.5
masc. - fem.	1.7	1.3	1.6	0.9	2.1	1.3	2.3	1.2	1.6	1.1	2.1	1.3
dis. - like.	6.1	1.1	5.7	1.3	4.8	1.2	4.3	1.3	5.7	1.3	5.4	1.5
n. aca. - aca.	5.7	1.2	5.2	1.2	3.8	1.7	3.0	1.7	4.9	1.8	4.6	1.5
unp. - prej.	3.8	1.8	3.9	1.6	4.1	1.3	4.0	1.1	3.0	2.0	3.6	1.5
act. - pass.	1.8	0.9	2.0	1.2	2.5	1.4	2.4	1.0	1.9	1.1	2.5	1.3
succ. - unsucc.	1.7	0.8	2.5	0.8	3.0	1.3	3.3	1.1	2.1	1.3	2.6	1.1
eff. - ineff.	1.8	0.8	2.5	0.9	2.9	1.3	3.4	1.1	1.9	1.9	2.5	1.1





TABLE IX  
MEANS AND STANDARD DEVIATIONS ACROSS GROUPS  
"THE FEMALE PHYSICAL EDUCATOR"

Groups	Gr. XI		B.P.E. 1		B.P.E. 3		Grad. S.		Aca. Stf.		Sch. Trs.	
Scales	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
int. - bor.	2.0	1.4	2.5	0.9	2.9	1.7	3.3	1.3	2.3	1.7	2.7	1.5
com. - inc.	2.1	1.2	2.4	0.9	3.1	1.5	3.4	1.1	2.5	1.4	2.8	1.5
unf. - fair	5.7	1.3	5.6	1.0	4.9	1.3	4.3	1.0	5.1	1.7	5.2	1.2
imp. - triv.	2.1	1.5	2.1	1.0	3.2	1.7	3.7	1.4	3.2	1.6	2.9	1.6
weak - str.	5.0	1.5	5.3	1.1	4.7	1.2	4.7	1.1	3.9	1.6	4.7	1.5
amb. - not a.	1.9	1.1	2.6	1.4	3.1	1.4	3.5	1.2	3.1	1.7	3.0	1.5
att. - rep.	2.2	1.5	2.7	1.2	2.6	1.5	2.7	0.9	2.6	1.6	2.7	1.5
reg. - flex.	4.2	1.9	5.0	1.4	4.1	1.7	3.7	1.2	4.3	1.8	4.4	1.8
hwk. - lazy	2.0	1.2	2.4	1.0	2.8	1.5	3.6	1.5	2.7	1.4	2.7	1.4
fol. - lead.	5.4	1.6	5.4	1.4	4.6	1.5	4.4	1.1	4.9	1.8	4.5	1.6
usf. - usl.	1.9	1.2	2.3	1.1	2.7	1.4	3.5	1.3	2.7	1.6	2.7	1.5
bad - good	6.0	1.3	5.7	1.3	5.0	1.4	4.4	1.0	5.0	1.6	5.2	1.5
mat. - imm.	1.9	1.4	2.4	1.3	3.3	1.5	3.7	1.2	2.2	1.3	3.2	1.7
pro. - n. pro.	2.1	1.5	2.3	1.0	3.6	1.8	4.0	1.7	3.2	1.8	2.9	1.5
ent. - unent.	2.0	1.4	2.3	0.8	2.9	1.4	3.2	1.1	2.8	1.5	3.0	1.5
pop. - unpop.	2.0	1.2	2.3	1.0	2.4	1.2	3.0	1.0	2.4	1.4	2.7	1.2
sec. - insec.	2.3	1.4	2.6	1.0	3.3	1.4	3.6	1.0	2.9	1.4	3.5	1.6
unint. - int.	5.8	1.5	5.7	1.0	4.5	1.5	4.4	1.2	5.2	1.6	5.0	1.6
masc. - fem.	5.2	2.0	5.0	1.5	5.1	1.6	5.1	1.4	5.5	1.8	5.6	1.4
dis. - like.	5.9	1.3	5.6	1.0	5.1	1.4	4.5	1.0	5.2	1.4	5.2	1.4
n. aca. - aca.	5.8	1.2	5.2	1.2	4.1	1.7	3.4	1.6	4.8	1.6	4.8	1.5
unp. - prej.	3.6	1.8	3.5	1.5	3.8	1.4	4.0	1.1	3.5	1.9	3.6	1.5
act. - pass.	2.0	1.3	2.2	0.8	2.5	1.3	2.6	1.2	2.8	1.7	3.0	1.6
succ. - unsucc.	2.1	1.2	2.3	0.8	2.9	1.3	3.2	1.0	2.8	1.6	2.9	1.2
eff. - ineff.	2.1	1.1	2.5	1.0	2.7	1.3	3.3	1.0	2.7	1.6	2.9	1.3





TABLE X  
MEANS AND STANDARD DEVIATIONS ACROSS GROUPS  
"THE PHYSICAL EDUCATOR AS COACH"

Groups	Gr. XI		B.P.E. 1		B.P.E. 3		Grad. S.		Aca. Stf.		Sch. Trs.	
Scales	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
int. - bor.	1.5	0.6	1.8	0.9	3.0	1.5	3.9	1.6	2.2	1.7	2.5	1.3
com. - inc.	1.5	0.7	1.7	0.8	2.5	1.3	3.1	1.3	2.1	1.6	2.2	1.2
unf. - fair	6.2	0.7	5.7	1.3	4.9	1.3	4.5	1.3	5.7	1.5	5.4	1.3
imp. - triv.	1.8	1.3	1.7	0.9	2.7	1.7	3.4	1.5	2.2	1.6	2.5	1.4
weak - str.	6.2	1.1	6.1	1.1	5.2	1.3	5.0	1.3	5.8	1.6	5.4	1.3
amb. - not a.	1.7	1.1	1.9	1.0	2.5	1.5	2.8	1.2	1.6	0.9	2.4	1.2
att. - rep.	2.2	1.0	2.0	0.9	3.1	1.3	4.0	1.1	2.9	1.2	2.9	1.2
rig. - flex.	3.7	2.0	4.5	1.9	3.5	1.7	3.9	1.4	3.1	1.9	4.2	1.7
hwk. - lazy	1.9	1.3	1.8	0.9	2.1	1.1	2.6	1.0	1.6	1.0	2.3	1.2
fol. - lead.	6.3	1.2	6.0	1.4	5.7	1.4	5.0	1.1	6.2	1.5	5.4	1.6
usf. - usl.	1.6	1.1	1.7	0.7	2.5	1.5	3.4	1.3	2.0	1.5	2.4	1.5
bad - good	6.2	1.3	6.0	1.1	5.1	1.4	4.5	1.2	6.1	1.2	5.6	1.4
mat. - imm.	1.5	0.8	2.0	1.0	3.0	1.6	3.2	1.2	2.0	1.5	2.7	1.4
pro. - n. pro	1.5	0.8	2.2	1.2	2.9	1.6	3.8	1.6	2.2	1.2	2.5	1.4
ent. - unent.	1.9	1.3	2.0	0.9	2.5	1.2	2.9	1.0	2.2	1.2	2.4	1.2
pop. - unpop.	1.6	0.7	1.7	0.8	2.6	1.4	2.8	1.2	2.1	1.1	2.3	1.2
sec. - insec.	2.0	1.2	2.1	1.0	3.1	1.5	3.6	1.2	2.5	1.3	2.8	1.2
unint. - int.	6.0	1.3	5.9	1.1	5.0	1.4	4.6	1.3	5.8	1.3	5.3	1.4
masc. - fem.	1.8	1.2	1.8	1.0	2.6	1.4	2.3	1.1	1.9	1.3	2.9	1.6
dis. - like.	6.3	0.9	6.1	0.9	4.8	1.3	4.2	1.1	5.7	1.3	5.4	1.2
n. aca. - aca.	5.5	1.5	5.4	1.3	3.8	1.6	2.8	1.6	4.8	1.7	4.8	1.5
unp. - prej.	3.7	2.0	3.7	1.7	3.9	1.4	4.1	1.2	3.4	2.1	3.3	1.4
act. - pass.	1.7	0.9	1.8	0.9	2.3	1.3	2.5	1.2	1.8	1.2	2.3	1.4
succ. - unsucc.	1.7	0.8	2.0	0.8	2.6	1.2	3.0	1.1	1.9	1.0	2.3	1.0
eff. - ineff.	1.7	0.8	1.9	0.8	2.5	1.3	3.0	1.1	2.0	1.3	2.3	1.3



TABLE XI

## MEANS AND STANDARD DEVIATIONS ACROSS GROUPS

## "THE DEGREE OF BACHELOR OF PHYSICAL EDUCATION"

Groups Scales	Gr. XI		B.P.E. 1		B.P.E. 3		Grad. S.		Aca. Stf.		Sch. Trs.	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
int. - bor.	1.6	0.9	2.7	1.3	3.5	1.9	4.7	1.8	2.2	1.3	2.3	1.2
com. - inc.	1.8	1.0	2.4	0.9	3.3	1.6	4.5	1.7	2.1	1.2	2.5	1.1
unf. - fair	5.8	1.2	5.3	1.1	4.7	1.1	4.1	1.2	5.4	1.5	4.7	1.6
imp. - triv.	1.7	1.1	1.9	1.1	3.3	1.8	4.4	1.8	2.4	1.6	1.8	1.0
weak - str.	5.7	1.4	5.1	1.5	4.4	1.6	3.6	1.4	5.3	1.4	5.1	1.6
amb. - not a.	2.0	1.3	2.8	1.2	3.3	1.6	4.1	1.5	2.1	1.2	2.5	1.3
att. - rep.	1.9	1.0	2.2	0.9	3.4	1.5	4.0	1.2	2.8	1.2	2.2	0.8
reg. - flex.	4.0	2.2	4.1	1.8	4.0	1.7	3.6	1.3	3.5	1.8	4.6	1.7
hwk. - lazy	1.9	1.1	2.5	1.0	3.5	1.5	4.3	1.4	1.9	1.1	3.9	1.3
fol. - lead.	5.8	1.5	5.4	1.5	4.4	1.5	4.2	1.0	5.7	1.4	5.5	1.3
usf. - usl.	1.5	0.9	2.0	0.9	3.2	1.7	3.6	1.4	2.0	1.4	2.9	0.7
bad - good	6.5	0.9	5.6	1.1	4.9	1.6	4.2	1.3	5.7	1.5	6.3	1.2
mat. - imm.	1.6	0.9	2.5	1.2	3.6	1.4	4.4	1.4	2.2	1.4	2.4	1.1
pro. - n. pro	1.5	0.8	2.1	0.9	3.6	2.0	4.6	2.0	2.2	1.5	2.4	1.0
ent. - unent.	1.9	1.2	2.5	1.0	3.4	1.5	3.7	1.2	2.1	1.2	2.4	1.1
pop. - unpop.	1.7	1.0	2.3	0.9	3.0	1.3	3.6	1.0	2.4	1.2	2.3	0.9
sec. - insec.	1.9	1.1	2.5	1.2	3.5	1.5	4.1	1.3	2.5	1.1	2.5	1.1
unint. - int.	6.0	1.3	5.4	1.2	4.4	1.6	3.6	1.4	5.2	1.6	5.3	1.3
masc. - fem.	3.0	1.3	2.7	1.2	3.3	1.0	3.0	1.1	2.7	1.4	2.8	1.3
dis. - like	6.1	1.2	5.7	1.1	4.5	1.5	3.9	1.1	5.2	1.5	5.3	1.3
n. aca. - aca	5.9	1.3	5.4	1.0	3.9	2.0	2.8	1.7	4.7	1.9	5.4	1.3
unp. - prej.	3.5	1.9	4.0	1.6	3.9	1.3	4.1	1.1	2.7	1.6	3.9	1.6
act. - pass.	1.7	1.2	2.1	0.9	2.9	1.3	2.9	1.1	2.1	1.3	2.2	1.2
succ. - unsucc.	1.8	1.0	2.4	1.0	3.4	1.5	3.6	1.0	2.3	1.2	2.2	0.9
eff. - ineff.	1.8	1.1	2.3	0.9	3.1	1.5	3.7	1.2	2.1	1.2	2.3	1.0







TABLE XII

DIMENSION MEANS AND MEAN STANDARD DEVIATION FOR EACH ASPECT

GROUP**	ASPECT	DIMENSIONS						TOTAL $\overline{SD}$
		EVALUATIVE		ACTIVITY		POTENCY		
		$\overline{X}$	$\overline{SD}$	$\overline{X}$	$\overline{SD}$	$\overline{X}$	$\overline{SD}$	
I	The Faculty	2.0	1.1	2.6	1.2	3.1	1.5	1.1
II	of Physical	2.3	1.0	2.5	1.2	3.3	1.7*	1.1
III	Education	3.6	1.4	3.3	1.3	3.6	1.4	1.4
IV		3.8	1.5	2.8	1.0	3.9	1.4	1.5
V		2.6	1.4	2.4	1.5	3.1	1.7*	1.4
VI		2.8	1.4	2.9	1.2	3.4	1.6*	1.4
I	The Male	1.8	0.9	1.8	1.0	3.0	1.4	1.0
II	Physical	2.4	1.0	2.1	1.2	2.9	1.4	1.1
III	Educator	3.2	1.4	2.5	1.4	3.2	1.3	1.4
IV		3.8	1.5	2.7	1.1	3.6	1.2	1.4
V		2.3	1.3	2.4	1.2	3.0	1.7*	1.3
VI		2.7	1.3	2.7	1.4	3.2	1.4	1.4
I	The Female	2.0	1.3	2.5	1.6*	3.2	1.6*	1.4
II	Physical	2.4	1.0	2.6	1.2	2.9	1.3	1.0
III	Educator	3.1	1.5	2.9	1.5	3.5	1.4	1.5
IV		3.5	1.2	3.0	1.2	3.8	1.1	1.2
V		2.8	1.5	2.8	1.8*	3.6	1.8*	1.6*
VI		2.9	1.5	3.0	1.5	3.3	1.5	1.5
I	The Physical	1.8	1.0	1.7	1.1	2.9	1.5	1.1
II	Educator as	2.0	0.9	1.9	1.1	3.0	1.5	1.0
III	Coach	2.8	1.4	2.4	1.4	3.6	1.3	1.4
IV		3.4	1.3	2.6	1.1	3.7	1.3	1.2
V		2.2	1.3	1.8	1.3	3.1	1.8*	1.4
VI		2.5	1.3	2.6	1.5	3.1	1.4	1.3
I	The Degree	1.8	1.0	2.5	1.3	2.8	1.7*	1.1
II	of Bachelor	2.4	1.0	2.5	1.2	3.4	1.5	1.1
III	of Physical	3.4	1.6*	3.3	1.3	3.7	1.4	1.5
IV	Education	4.2	1.4	3.3	1.1	4.2	1.3	1.4
V		2.6	1.3	2.4	1.4	3.1	1.5	1.4
VI		2.5	1.1	2.6	1.3	3.4	1.6*	1.2

\*Standard deviations in excess of 1.5.

\*\*I-Gr. XI II-1 Yr. P.E. III-3 Yr. P.E. IV-Grad. St. V-Acad. VI-Sch. Trs.



on the activity dimension and 9 are above on the potency dimension. Each of these is marked by a single asterisk on Table XII. However, when all the dimensions are taken together, only one mean standard deviation is found to be above 1.5; and that one (The Female Physical Educator - Academic Staff) is 1.6. Over all scales without regard to dimension, this indicates that no group exhibited extreme variability in homogeneity of responses since in all cases 66% or more of the group was found within a range of 3 scale points, while the "average" group (computed from the mean Total SD) was found to have 75% of its members within a 3 point spread.

It is apparent from Table XII that the groups were most consistent in their ratings, but it is also noticeable that a pattern of relative homogeneity exists. Groups I and II are almost identical across all dimensions. Rarely are they separated by more than 0.1 standard deviations and between them they have consistently the lowest mean deviation. Only in "The Female Physical Educator" is there a large difference and this may be explained by the Grade XI Boys' lack of contact and experience with female physical educators.

The remaining groups on the other hand are less consistent in their meanings for the aspects. Their standard deviations, though not large, fluctuate from a low of 1.1 for School Teachers in the evaluative dimension to a high of 1.8 for Academic Staff in both the activity and potency dimensions. Indeed, the academic staff group showed generally less homogeneity of meaning for the aspects than did the other groups. This tendency probably results from variable backgrounds of this group compared with the closer contact occurring between Grade XI Boys and First Year Physical





Education students with the aspects of physical education. This suggestion, however, does not explain the second least homogenous group, Third Year Physical Education students. In this case the lower homogeneity may be a factor of differential reactions to three years of close relationship to physical education. This particular group had relatively high evaluative dimension standard deviations and these may be reflecting the effects of differential experiences and reactions to the courses at the University. This would be consistent with the nature of semantic meaning (28). If present third year students started their degree programs with similar homogeneity of meaning to that shown by the First Year students then change in meaning has occurred as a result of their experiences with physical education over the ensuing three years. In other words, the significates have given rise to modified signs for each individual according to his development within the program.

In summary, the statistical analysis has indicated that substantial homogeneity exists between the groups and within the samples generally. However, the inclusion of more scales from dimensions other than evaluative probably would have assisted in investigating this area more closely.

#### B. The Investigation of Attitudes Towards Aspects of Physical Education.

Discussion of the attitude toward aspects of physical education appears to fall naturally into two parts. The first part deals with the responses made by all groups to a given aspect, while the second is concerned with the responses of each group to all the aspects.





## Part 1. Groups by Aspect.

### The Faculty of Physical Education.

The first aspect to be presented was the Faculty of Physical Education. It was immediately evident that the Faculty was held in high regard by Grade XI Boys and First Year Physical Education students. Reference to Figure 2 illustrates the very close similarity between the evaluative patterns of the two groups. Their ratings were uniformly favorable, to a very high degree, to the Faculty. With a maximum score of 1 on the 7 point scale, the range of mean responses for groups I and II was 1.6 on the good - bad continuum to 3.0 on the hard working - lazy scale. The means on the evaluative dimension for both groups were 2.0 and 2.3 respectively.

The Faculty was slightly less favorably viewed by the Academic Staff and School Teachers which ranged from 2.1 to 3.9 on scale means and had dimension means of 2.6 and 2.8 respectively. Nevertheless, both are clearly favorably disposed towards the Faculty of Physical Education. None of the four groups discussed to this point, exhibited one unfavorable scale mean. However, there was some indication that the academic nature of the faculty was questionable. Reference to Table XII indicates a mean of 3.7 and 3.9 (reflected) for Groups V and VI respectively.

This tendency to regard the Faculty of Physical Education as non-academic was strongest among Graduate Students and Third Year Physical Education students (reflected means 5.1 and 4.2 respectively). The same groups were less favorable in their evaluation of the Faculty over all scales. Their dimension means were very close to the neutral position on the scale and this seems to indicate that they are neither prepared to



## THE FACULTY OF PHYSICAL EDUCATION \*

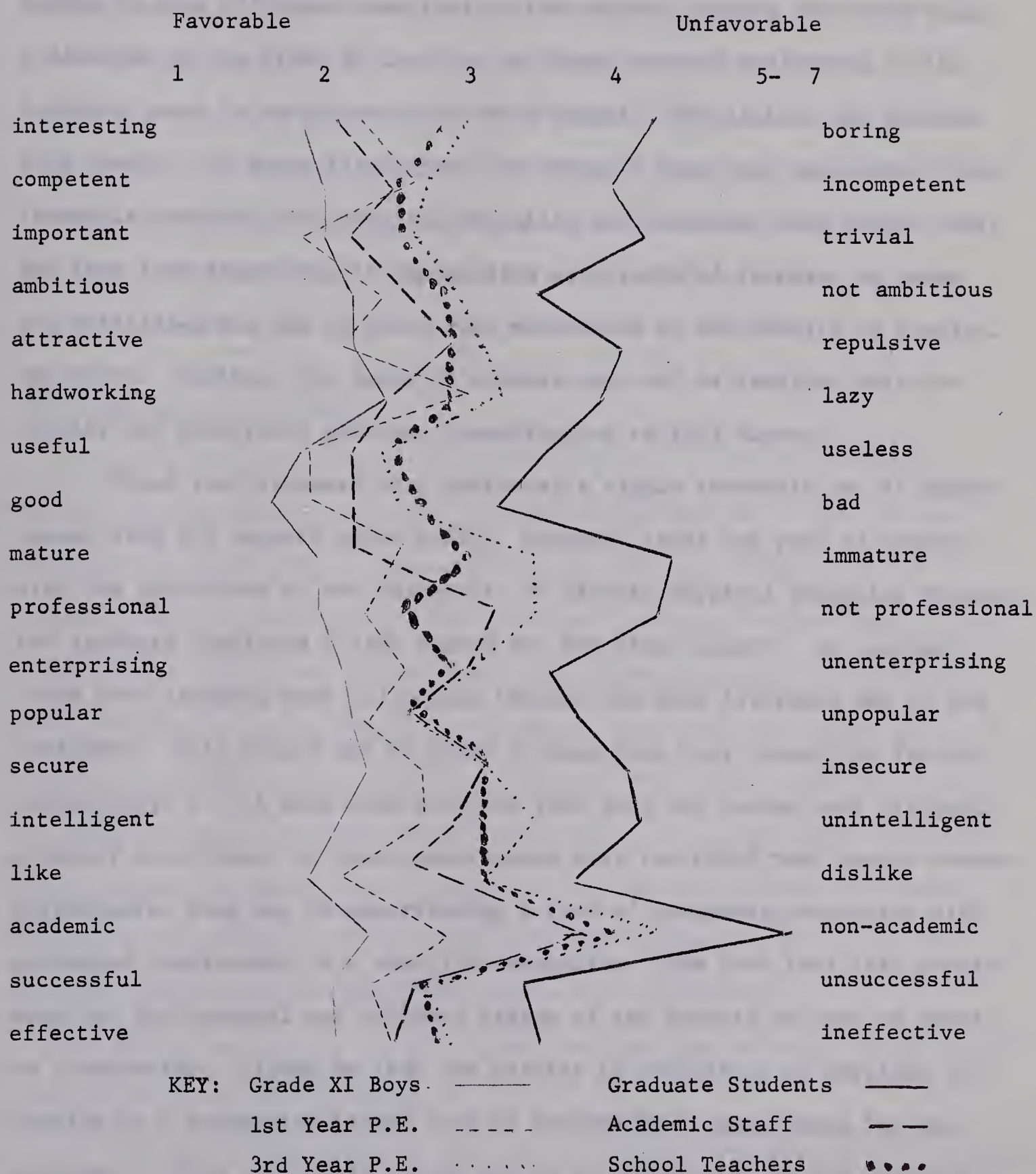


Figure 2. Profiles of mean scores on the evaluative dimension of the Semantic Differential scales obtained from 6 male groups. Note that values 5 to 7 have been abridged.

\*Note: In this and all subsequent figures scales and means are reflected.





praise nor condemn the Faculty. Indeed, the tendency for the four student groups to have different reactions to the aspects ranging from very high evaluation at the Grade XI level to an almost neutral evaluation at the Graduate level is consistent over every aspect. Two factors may explain this result. It seems likely that the Grade XI Boys have experienced very favorable contacts with physical education and educators over recent years and that this experience in conjunction with youthful interest in games and activities has led to their high evaluation of the Faculty of Physical Education. Further, the Grade XI students may not be familiar with the Faculty nor have given previous consideration to this aspect.

First Year students also indicated a highly favorable set of experiences with all aspects under study. Further, after one year of contact with the operations of the University of Alberta Physical Education Faculty, the students displayed a high regard for the first aspect. By contrast, Third Year students were 1.3 points towards the less favorable end of the continuum. This should not be taken to mean that they viewed the Faculty unfavorably, but it does seem possible that they had become more critical, probably as a result of their experiences over the third year degree course. Furthermore, they may be experiencing a form of staleness associated with prolonged involvement in a specific occupation. The fact that they considered the professional and academic status of the Faculty as open to doubt is interesting. It may be that one barrier to acceptance of physical education as a profession is the lack of professional image among its own graduates. This, of course, could not be an explanation of the Graduate Students' neutral rating of the Faculty. Here the explanation may lie in



in the apparent unwillingness of the Graduate Students to recognise the possibility of the Faculty of Physical Education being on an academic and professional level with other fields of graduate study. Examination of Figure 2 indicates a bias towards the unfavorable and it may be that an effort to show graduate students in other areas the programs and facilities for research available in physical education would help overcome this attitude. Certainly, the Graduate Students' group has consistently, in all the aspects under study, tended towards the unfavorable.

#### The Male Physical Educator.

Much the same pattern appeared on aspect II, "The Male Physical Educator". The most significant feature of the results in this aspect was the extremely favorable rating given to the physical educator by the Grade XI Boys. The range of scale means in the group is less than 1.0 and most of the scales vary by less than 0.3. Uniformly, then, the Grade XI Boys evaluate the male physical educator as a very acceptable concept. The trend is repeated by the First Year students whose scale means are similar to those of School Teachers and Academic Staff. It is interesting to note that the male physical educator is, like his Faculty, regarded as less academic and professional than important and useful. Nevertheless, all but two groups were strongly favorable in their assessment.

The other groups, the Third Year students and Graduate Students, were more cautious in their ratings.

The Third Year students indicated a general favorability with reservations about professional and academic standing, while the Graduate Students were generally neutral on most scales. However, they considered the male





## THE MALE PHYSICAL EDUCATOR

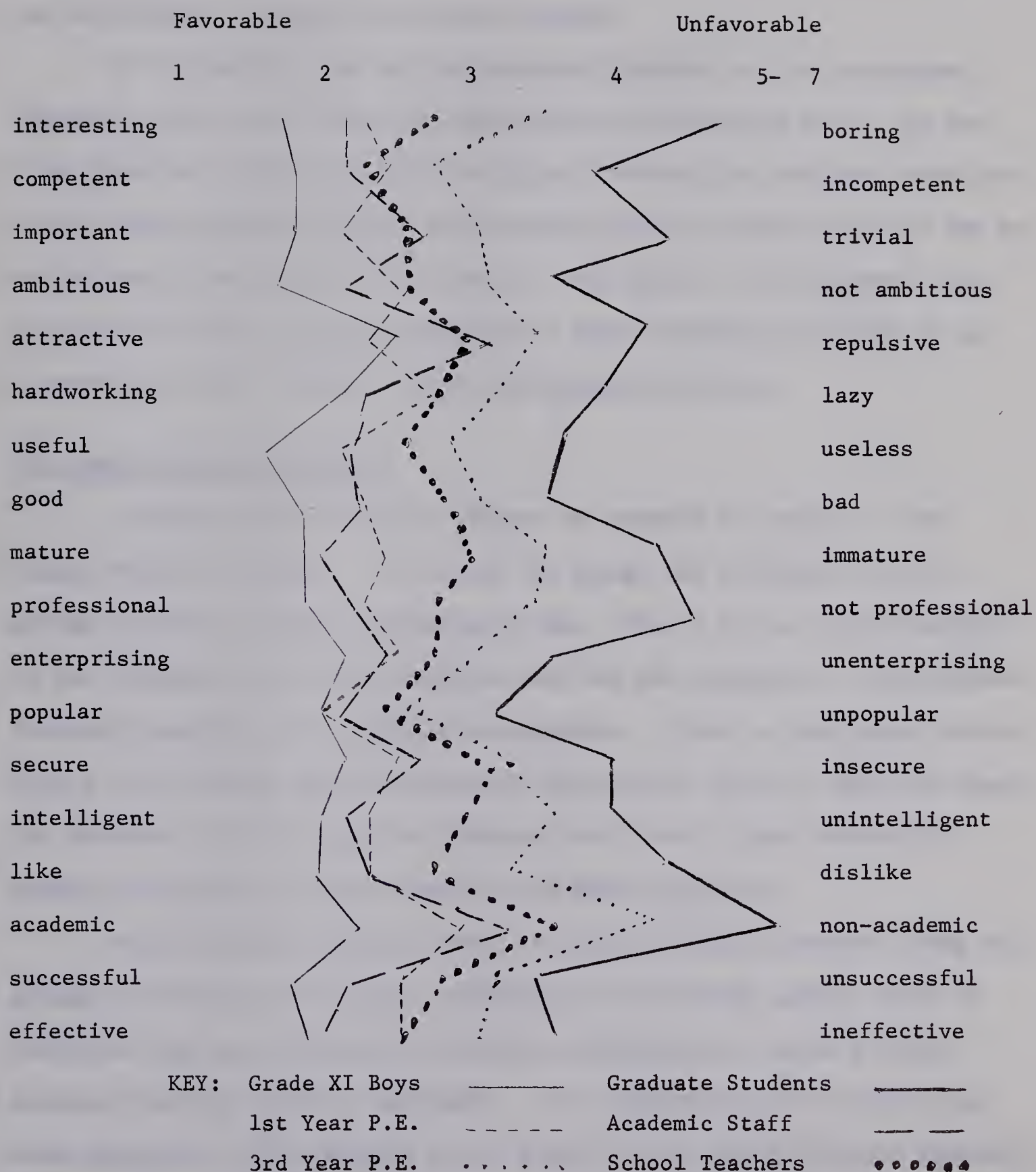


Figure 3. Profiles of mean scores on the evaluative dimension of the Semantic Differential scales obtained from 6 male groups. Note that values 5 to 7 have been abridged.





physical educator to be somewhat boring, trivial, repulsive, non-professional and non-academic, though in a moderate degree.

It is possible that the explanations forwarded for the patterning apparent on the first aspect are applicable to this aspect also. The profile drawn for Graduate Students in Figure 3 forces the conclusion that contact between graduate students and the male physical educator has not led to an impressive evaluation of the latter. Once again, it is suggested that a program of public relations directed at these students may result in an upgrading of their attitudes toward the physical educator.

#### The Female Physical Educator.

A similar set of profiles (Figure 3) appeared for aspect 3 "The Female Physical Educator". The first two groups are obviously very consistent in their favorable evaluation of her. She is in fact rated entirely on the favorable end of the continuum with but one exception -- the Graduate Students regarded her as slightly non-academic. There is less spread within Figure 4 (The Female Physical Educator) than within Figure 3 (The Male Physical Educator) and this seems to indicate that there is less variability between the groups in their rating of the Female Educator.

This favorable attitude toward the Female Physical Educator among all groups is a factor to be noted, especially by recruiting agents, since it indicates that any unfavorable impression regarding the female physical educator that may exist is unfounded. It is interesting to note that the mean femininity rating applied by all groups to the Female Physical Educator was 2.7. This, coupled with a 2.6 rating for attractiveness, should settle the claim that males find the female physical educator too masculine to be attractive.



## THE FEMALE PHYSICAL EDUCATOR

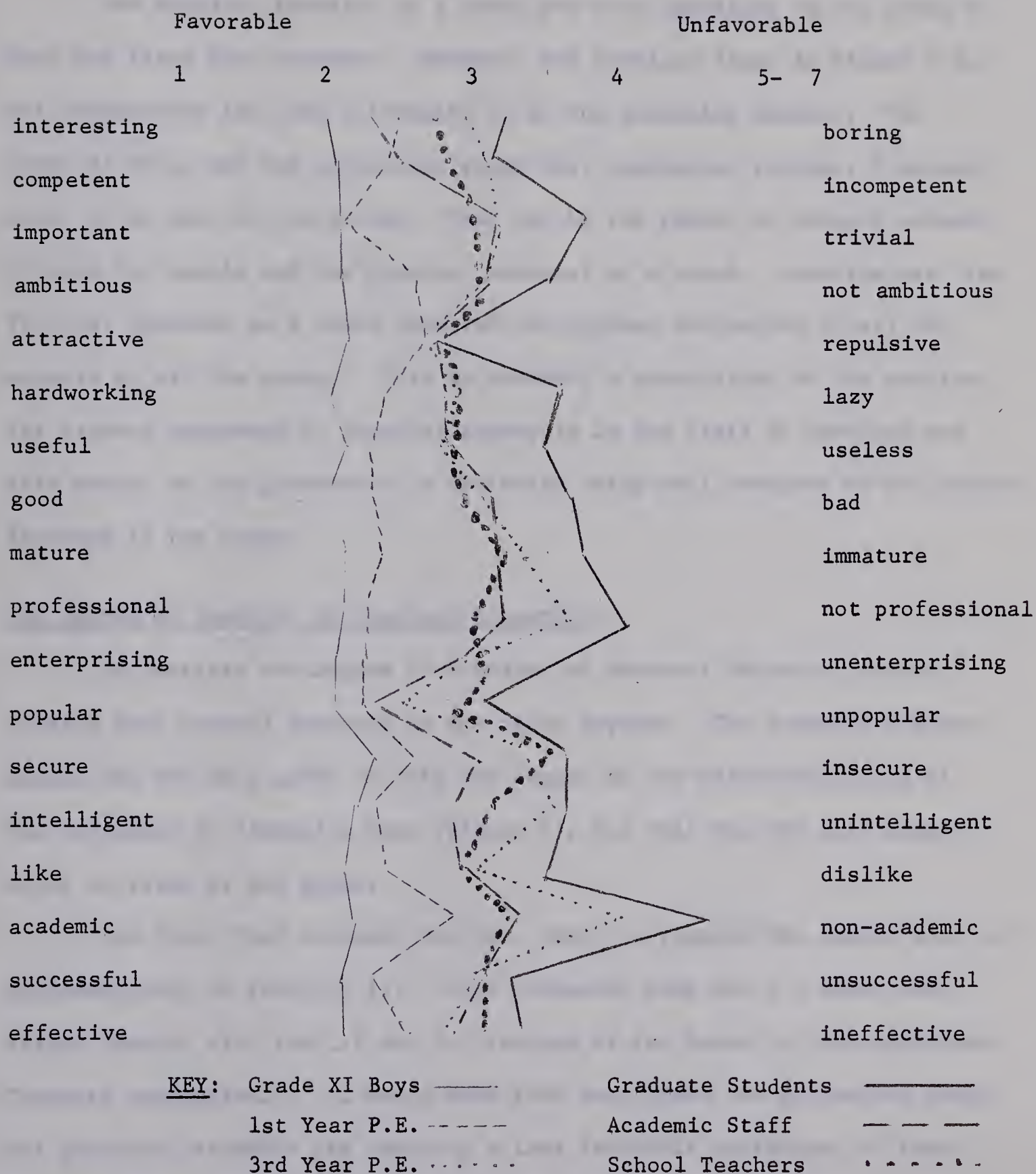


Figure 4. Profiles of mean scores on the evaluative dimension of the Semantic Differential scales obtained from 6 male groups. Note that values 5 to 7 have been abridged.





### The Physical Educator as a Coach.

The Physical Educator as a Coach was very appealing to the Grade XI Boys and First Year students. However, the profiles drawn in Figure 5 do not demonstrate the same uniformity as in the preceding aspects. The Grade XI Boys, who had previously shown very consistent ratings, fluctuate more, as do most of the groups. This may be the result of reduced contact between the sample and the physical educator as a coach. Nevertheless, the Physical Educator as a Coach received the highest evaluation of all the aspects by all the groups. This is probably a recognition of the particular talents possessed by physical educators in the field of coaching and this aspect of the profession is obviously being well accepted by the groups included in the study.

### The Degree of Bachelor of Physical Education.

By contrast the Degree of Bachelor of Physical Education did not receive such general approval as the other aspects. The Graduate Student sample was the only group to rate the degree on the unfavorable side of the continuum by dimension mean (Figure 7), but this was the only aspect to be so rated by any group.

The Third Year students who were about to receive the degree were not wholeheartedly in favor of it. Their dimension mean was 3.4 which contrasts sharply with the 1.8 and 2.5 ratings by the Grade XI Boys and School Teachers respectively. It would seem that once again the graduating physical education students are carrying a less favorable impression of their profession than all other groups except the Graduate Students.



## THE PHYSICAL EDUCATOR AS COACH

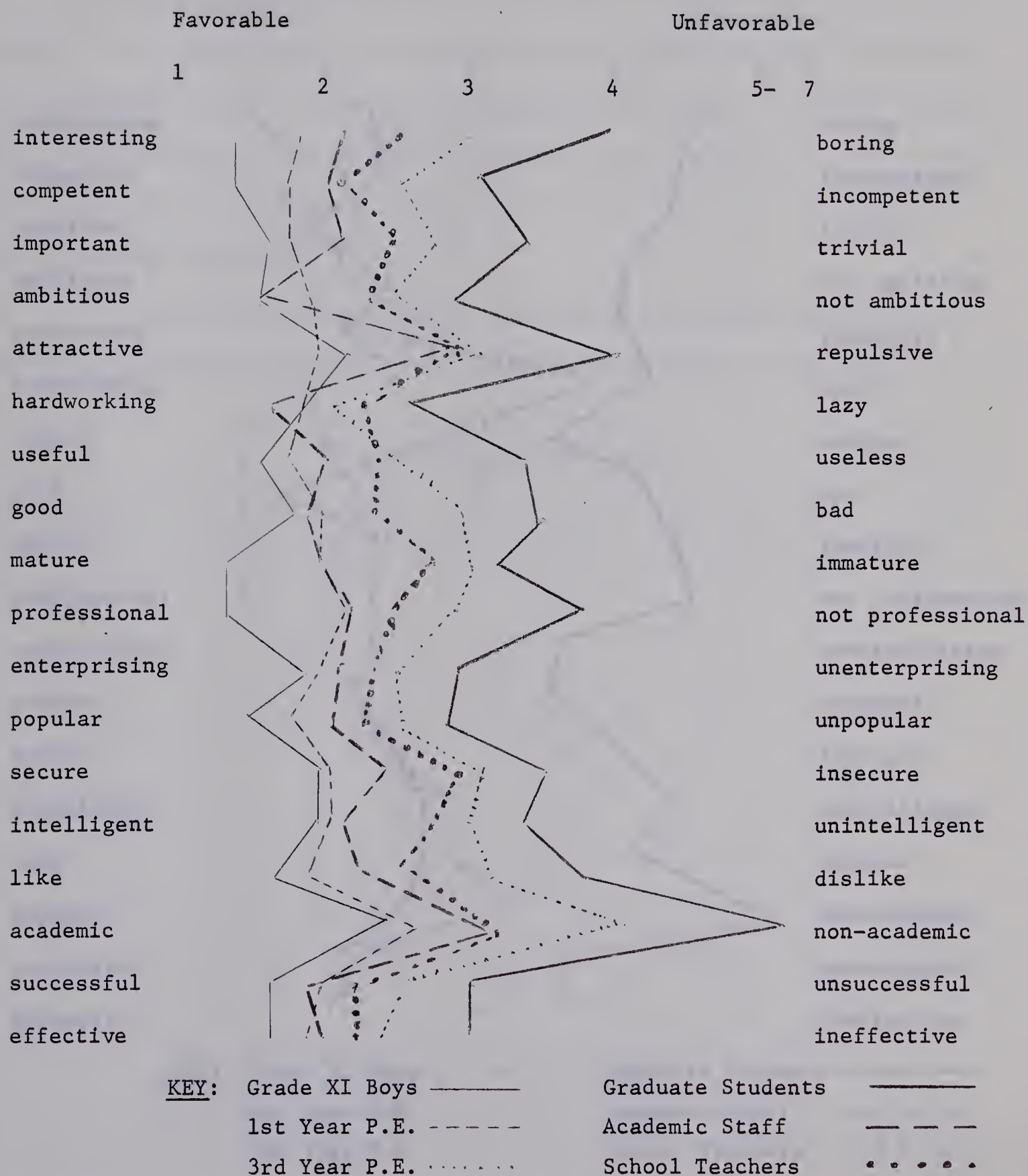


Figure 5. Profiles of mean scores on the evaluative dimension of the Semantic Differential scales obtained from 6 male groups. Note that values 5 to 7 have been abridged.





## THE DEGREE OF BACHELOR OF PHYSICAL EDUCATION

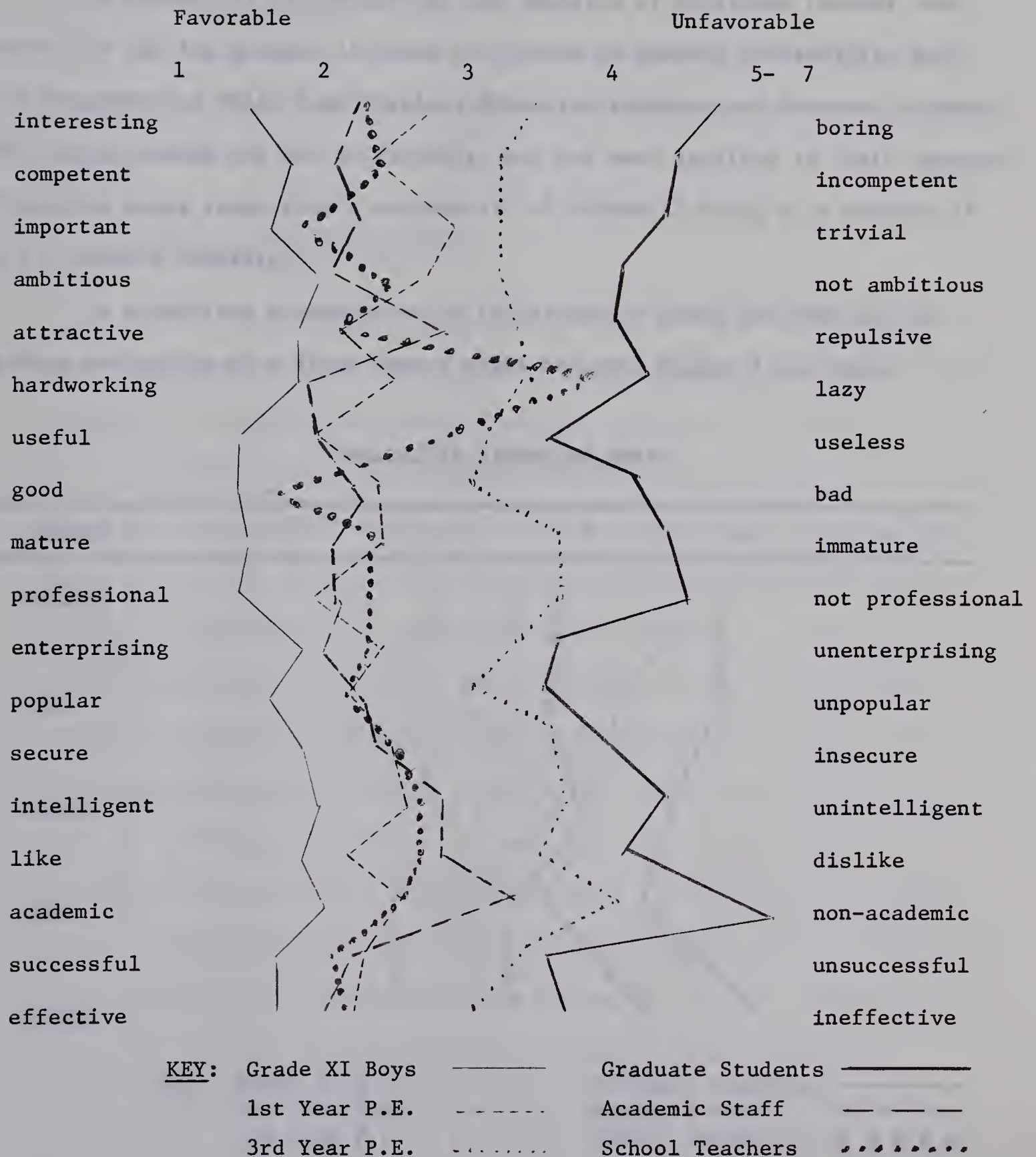


Figure 6. Profiles of mean scores on the evaluative dimension of the Semantic Differential scales obtained from 6 male groups. Note that values 5 to 7 have been abridged.





### Summary of the Aspects.

In summary of the results of the analysis of attitudes towards each aspect by all the groups, it seems that there is general favorability with the exception of Third Year Physical Education students and Graduate Students. The latter groups are not unfavorable, but are more cautious in their approval. Dimension means range from a minimum of 1.8 (Grade XI Boys) to a maximum of 5.2 (Graduate Students).

In order that a comparison of the dimension means for each of the groups evaluation of a given aspect might be made, figure 7 was drawn.

EVALUATIVE DIMENSION MEAN

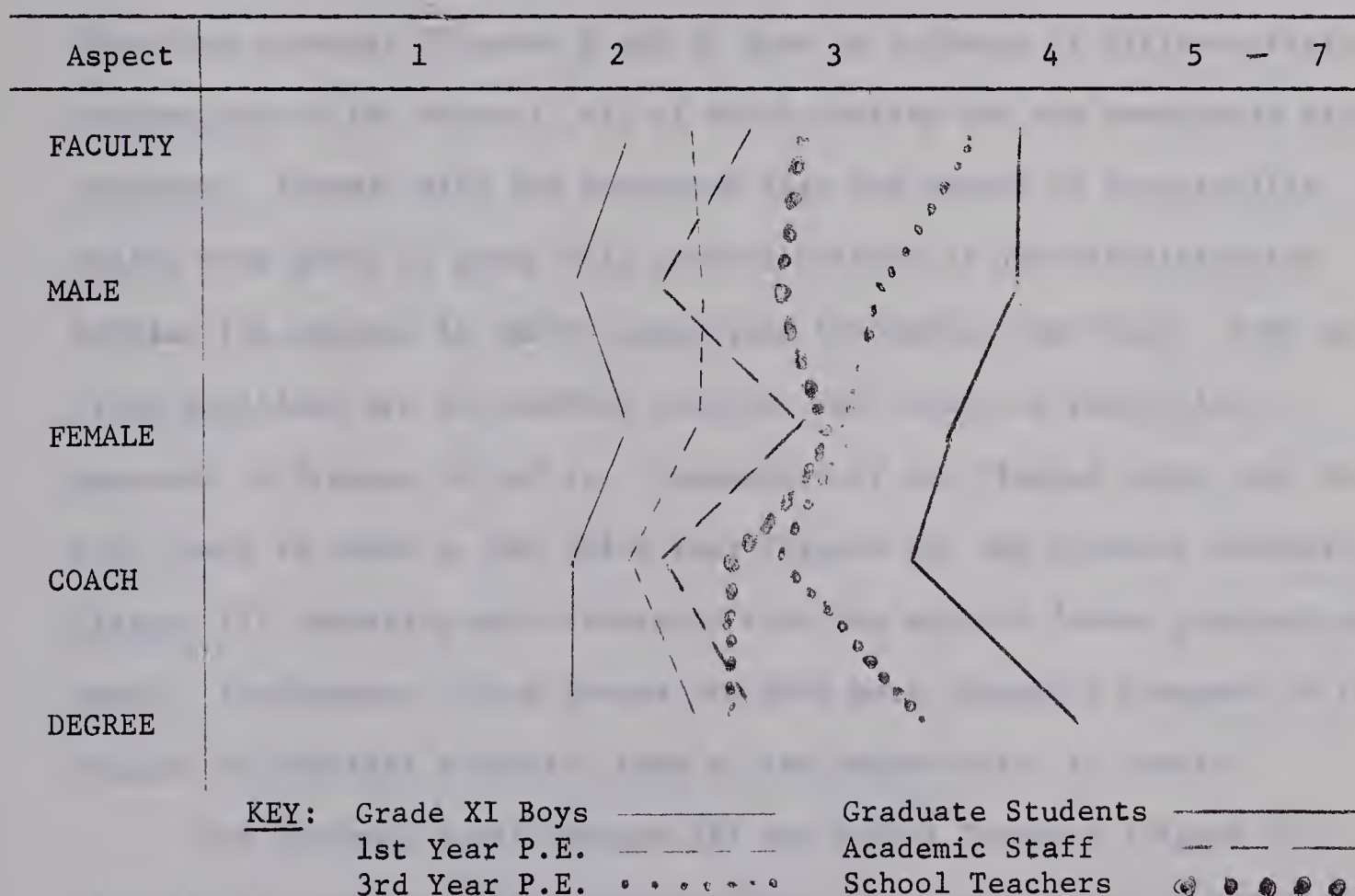


Figure 7. Profile of evaluative dimension mean for each group on all aspects.



This figure illustrates how each group rated the aspects along a favorability - unfavorability continuum.

To complete the results of the study the profiles displayed in figures 8 through 13 were drawn to show how each group rated the aspects on scale means.

## Part 2. Aspects by Group.

One of the purposes of the study was to investigate whether each group had different attitudes to the aspects themselves. Figures 8 through 13 present profiles of the response of each group to all aspects.

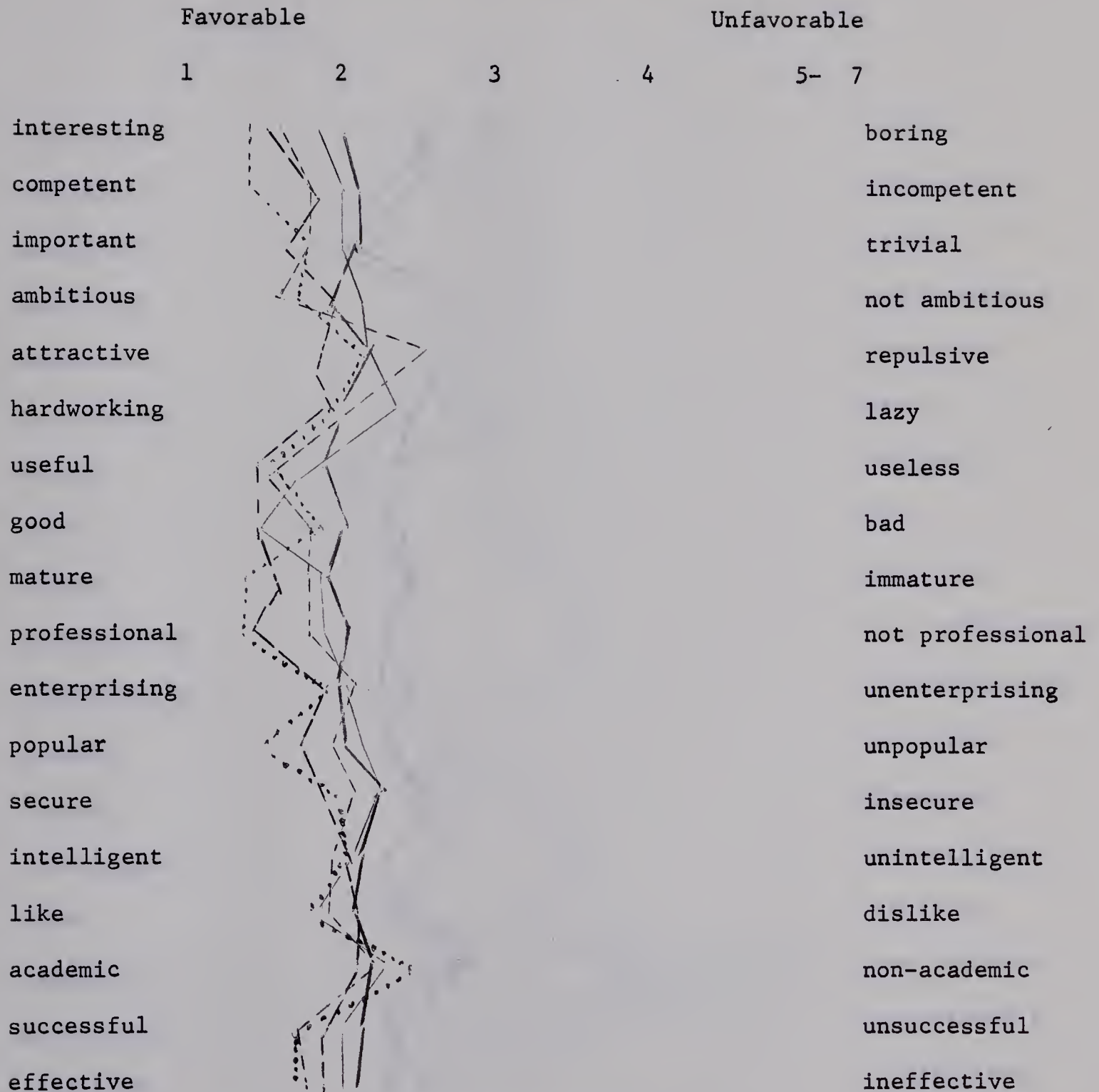
The first two groups, the Grade XI Boys and the First Year Physical Education students (Figures 8 and 9) show no evidence of differentiation between any of the aspects, all of which overlap and are remarkably highly regarded. Indeed, with the exception that the degree of favorability shifts from group to group this general pattern of non-discrimination between the aspects is fairly consistent throughout the study. Some extreme positions are noticeable, however, and these are particularly apparent in Figures 10 and 11. Inspection of the figures shows that the P.E. Coach is rated by the Third Year (Figure 10) and Graduate Students (Figure 11) generally more favorably than the male or female physical educator. Furthermore, these groups are both more favorably disposed to the Faculty of Physical Education than to the degree which it grants.

The Academic Staff (Figure 12) and School Teachers (Figure 13) also display greater differentiation than either of groups I or II but once again the profiles tend to overlap quite considerably so that it is





## GRADE XI BOYS



KEY: The Faculty of Physical Education

The Male Physical Educator

The Female Physical Educator

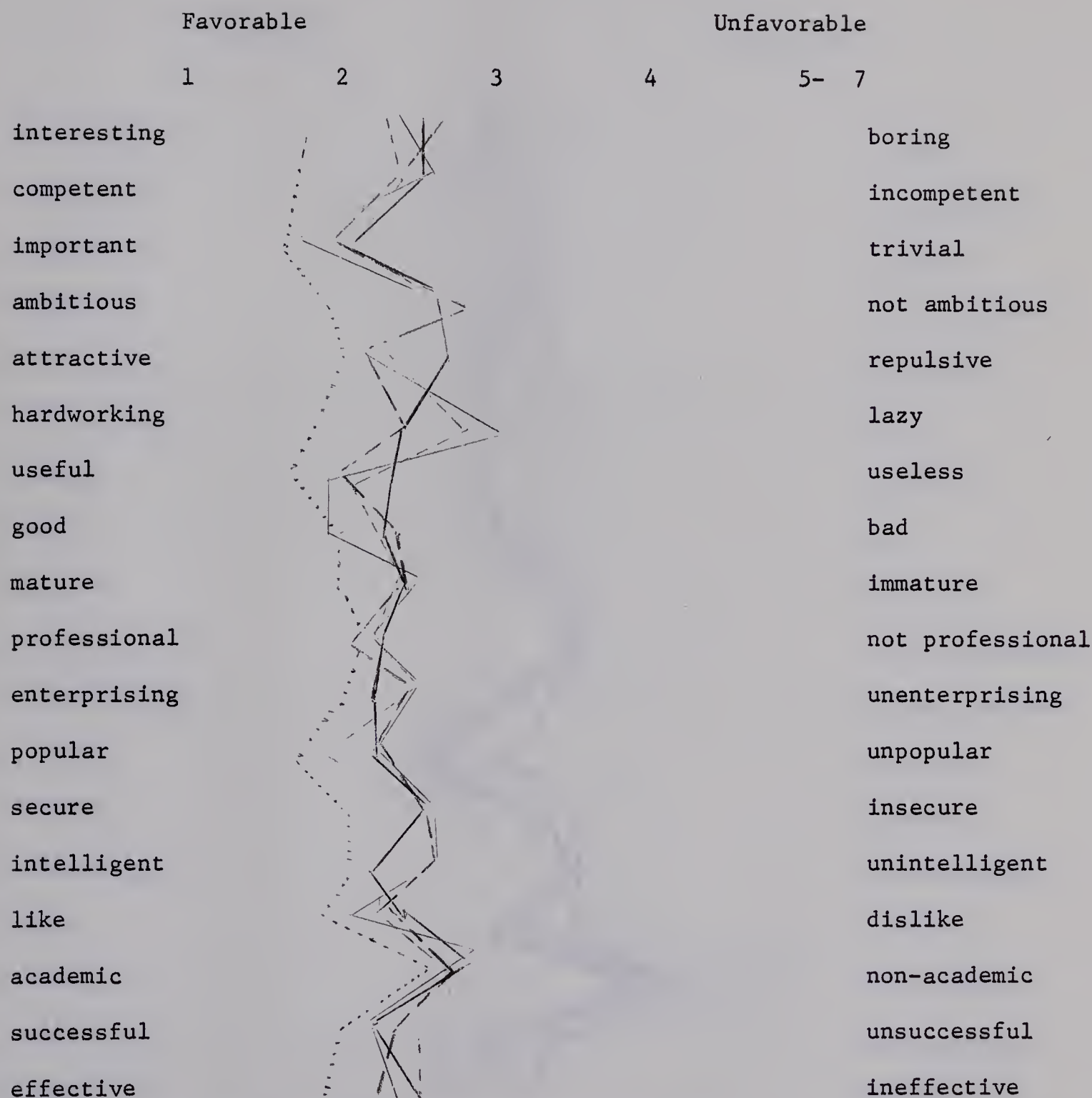
The Physical Educator as Coach

The Degree of Bachelor of Physical Educ.

Figure 8. Profile of evaluative dimension scale means for separate groups on all aspects.



## FIRST YEAR PHYSICAL EDUCATION

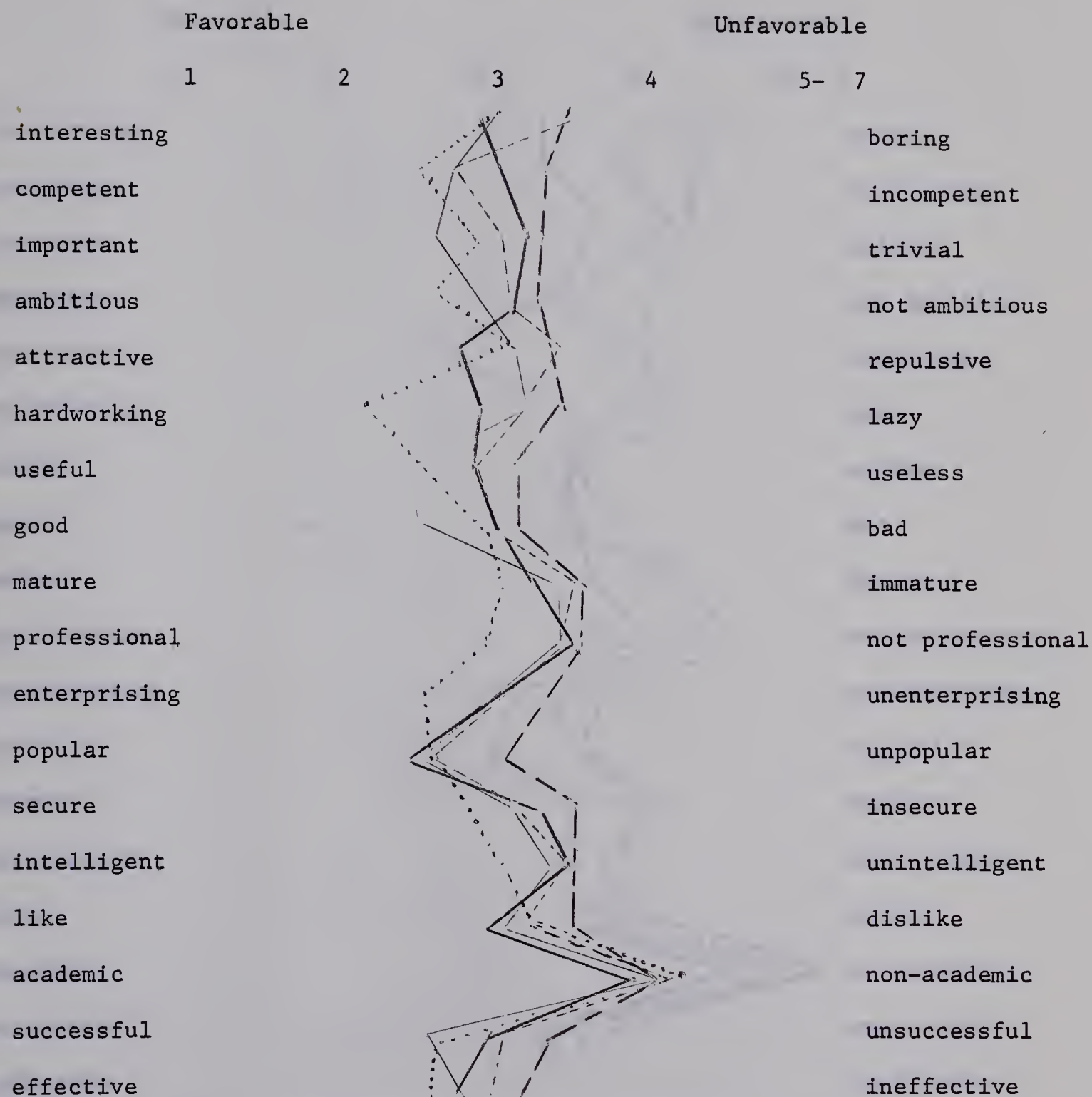


KEY: The Faculty of Physical Education  
 The Male Physical Educator  
 The Female Physical Educator  
 The Physical Educator as Coach  
 The Degree of Bachelor of Physical Educ.

Figure 9. Profile of evaluative dimension scale means for separate groups on all aspects.



## THIRD YEAR PHYSICAL EDUCATION



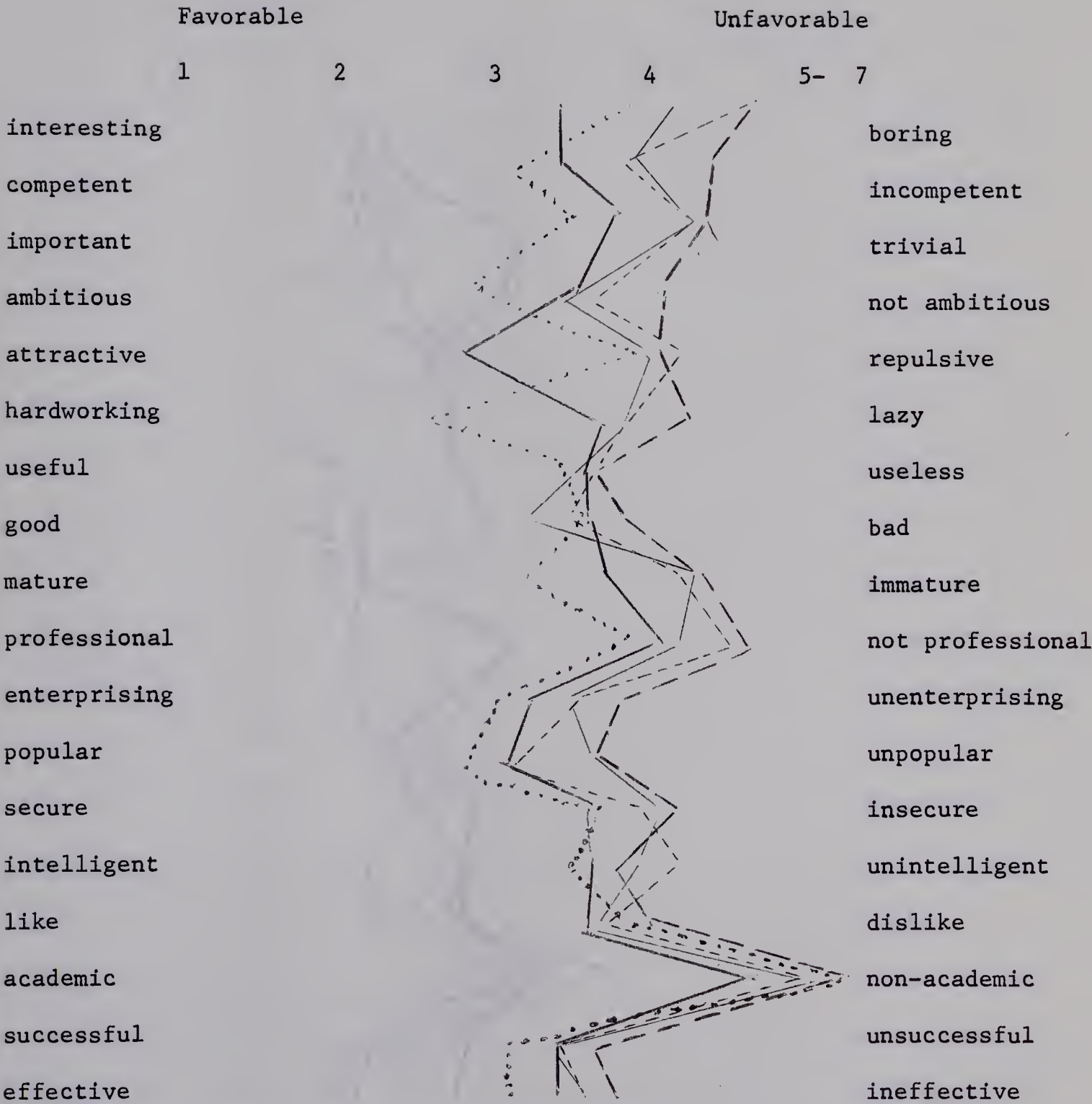
**KEY:** The Faculty of Physical Education  
 The Male Physical Educator  
 The Female Physical Educator  
 The Physical Educator as Coach  
 The Degree of Bachelor of Physical Educ.

Figure 10. Profile of evaluative dimension scale means for separate groups on all aspects.





GRADUATE STUDENTS

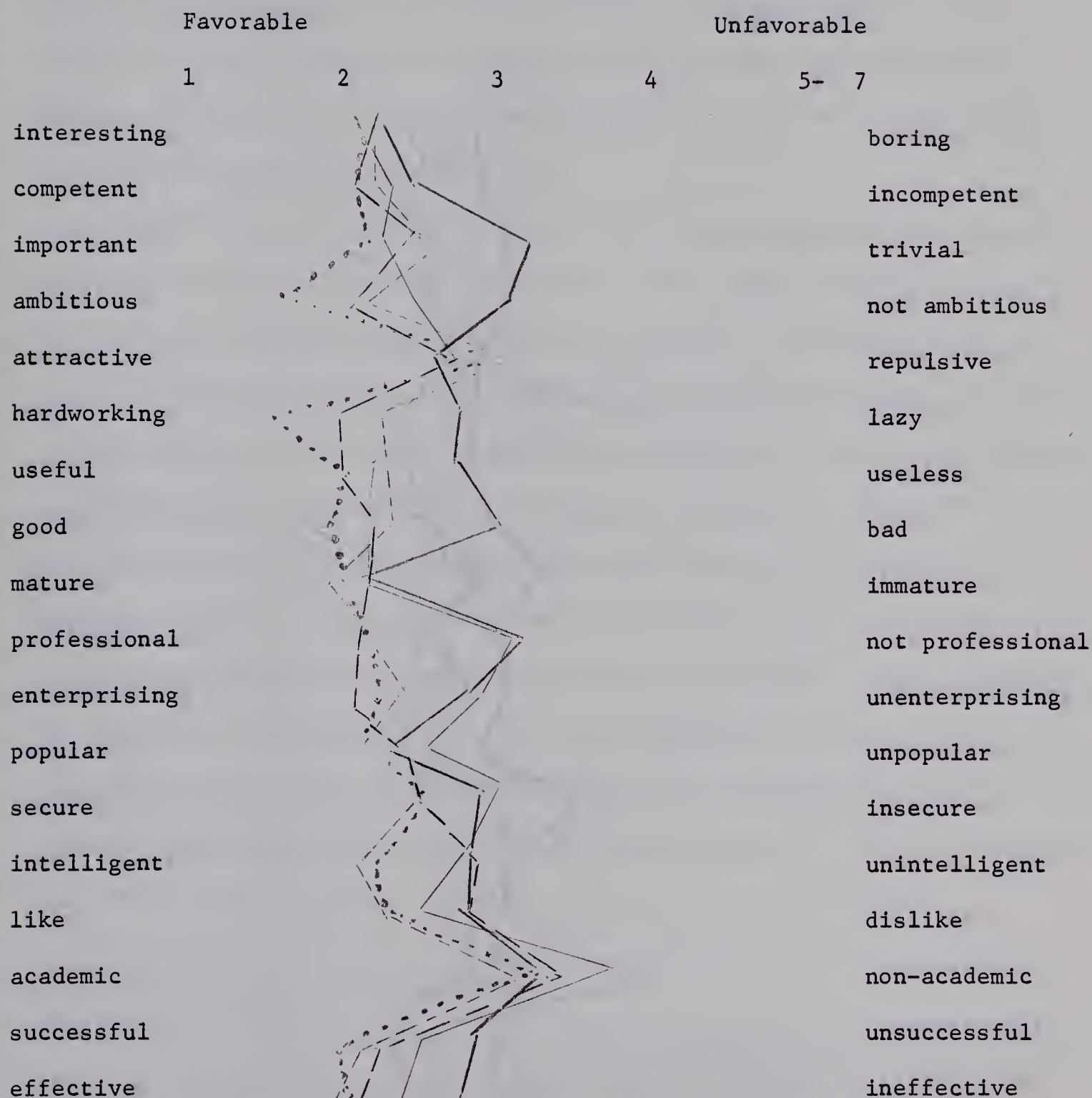


**KEY:** The Faculty of Physical Education  
The Male Physical Educator  
The Female Physical Educator  
The Physical Educator as Coach  
The Degree of Bachelor of Physical Educ.

Figure 11. Profiles of evaluative dimension scale means for separate groups on all aspects.



## ACADEMIC STAFF



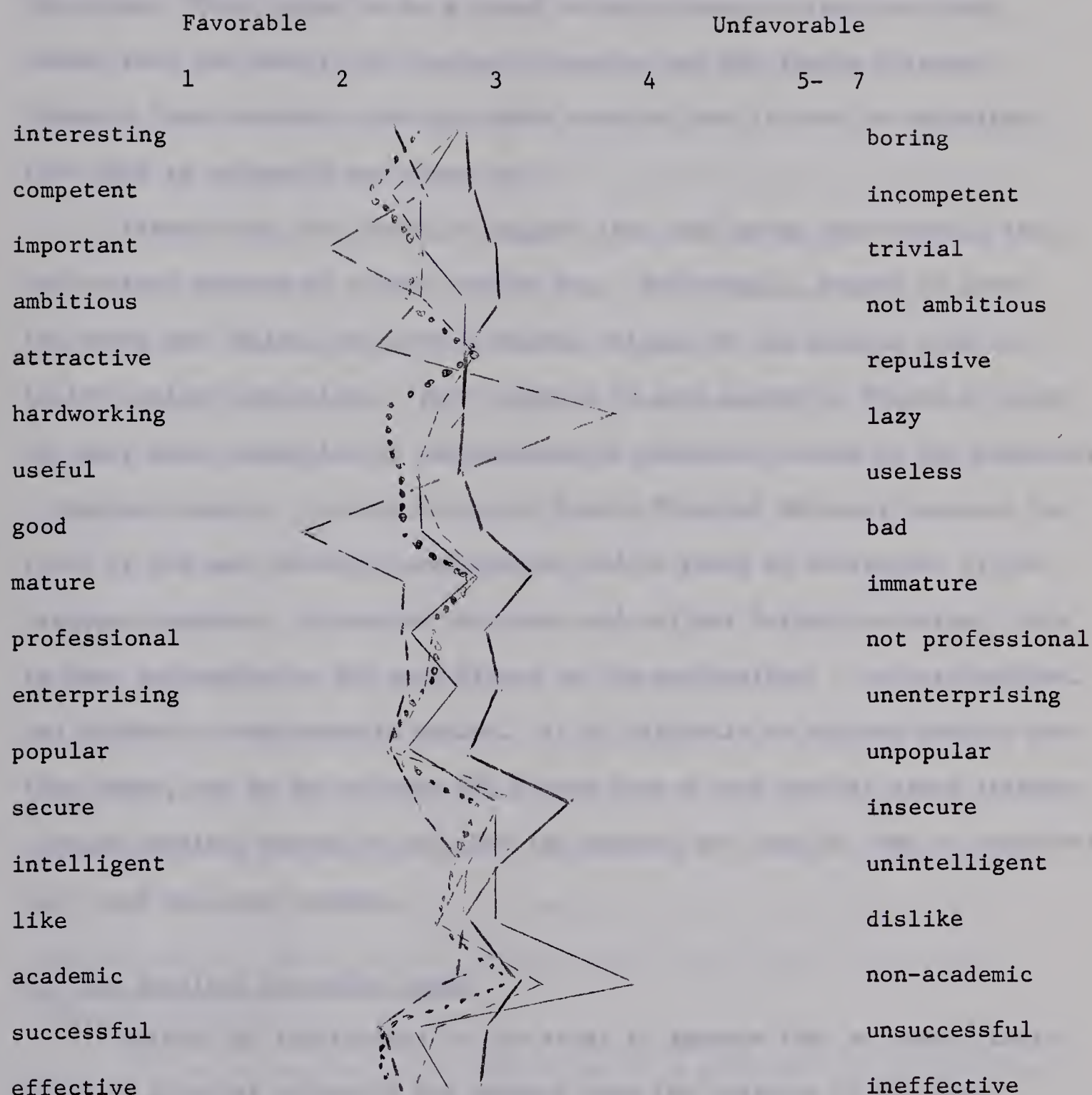
**KEY:** The Faculty of Physical Education —————  
 The Male Physical Educator - - - - -  
 The Female Physical Educator —————  
 The Physical Educator as Coach . . . . .  
 The Degree of Bachelor of Physical Educ. — — — — —

Figure 12. Profiles of evaluative dimension scale means for separate groups on all aspects.





## SCHOOL TEACHERS



KEY: The Faculty of Physical Education

The Male Physical Educator

The Female Physical Educator

The Physical Educator as Coach

The Degree of Bachelor of Physical Educ.

Figure 13. Profile of evaluative dimension scale means for separate groups on all aspects.



not possible to suggest that any one aspect is evaluated more highly than any other. There seems to be a trend in both groups to rate the Coach higher than the Faculty of Physical Education and the Female Physical Educator less favorably than the other aspects, but it must be emphasised that this is certainly not clear cut.

Essentially, the profiles suggest that each group individually sees the various aspects in a very similar way. For example, Figure 13 shows the peaks and valleys for School Teacher ratings of the aspects tend to follow similar directions. This tendency is most marked in Figure 11 where the only major exception to the sameness of direction occurs on the attractive - repulsive scale. On this scale the Female Physical Educator reverses the trend of the male towards repulsiveness and is rated as attractive by the Graduate Students. Otherwise the peaks and valleys largely coincide. This is very noticeable in the same figure on the professional - non-professional and academic - non-academic scales. It is difficult to suggest exactly what this means, but it may be that all groups have a very similar group attitude towards physical education and that the aspects are seen by them to represent very much the same concept.

### C. The Physical Education Image.

Within the limitations of the study it appears that an identifiable image of physical education has emerged from the analyses of the data.

That the image the profession is creating varies from group to group appears to be established. Yet this image is indeed one which is regarded with favor by most of the members of the sample. The lack of differentiation by groups among aspects is, as has been pointed out, tentative evidence





that physical education is perceived as a unified concept composed of closely linked elements overlapping greatly in evaluative factors. Although not surprising, this feature of the image is encouraging to the physical educator since it suggests that the behavioural patterns elicited by aspects of physical education are very similar in nature within the groups. That they vary between groups is less encouraging. Were all the attitudes as favorable as those expressed by Groups I and II then physical education could consider itself highly regarded indeed. The fact that the very important group of Third Year students has a less favorable attitude to all the aspects than any other group except Graduate Students suggests the need for further investigation to determine the reason.

The question of professional status is still open to doubt. Almost without exception the groups rated each aspect less favorably on professional - non-professional and academic - non-academic than any other scale. While these ratings were on the favorable side of the mean, except for those of the Graduate Students, the fact that there was a consistent shift indicates that the image is not yet that of a wholly accepted profession.

In summary it seems that the image of physical education which emerged from the groups in the present study incorporates some of the following factors:

1. It is seen to be interesting both as professional training, and as an occupation. Its practitioners are regarded as competent, ambitious, useful and important. Though not especially academic nor hardworking, they are intelligent, popular and secure.

2. Their professional preparation is regarded as mature though not necessarily highly academic nor professional in nature.





3. Four of the groups, representing 66% of the sample are very well disposed to all the investigated aspects of the image. One group, or 16%, was less certain of the high value of physical education. The remaining group tended to express neutral attitudes towards the aspects of the image and in some cases indicated that some facets were in need of improvement.

Overall, there seems no great cause for physical educators to fear that they are unfavorably regarded.



## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### I. SUMMARY

Since it was evident that a number of physical educators were concerned with the nature of the image that their profession was projecting to the community, it was felt that a need existed for an examination of attitudes towards physical education. The primary purpose of the present study was an investigation of attitudes held by male groups in Edmonton, Alberta, towards certain aspects of physical education.

Secondary purposes included the following:

1. To determine if differences exist between the attitudes held by each group towards each aspect of physical education.
2. To determine whether attitudes within each group vary between the aspects of physical education.
3. To investigate the usefulness of the Semantic Differential as a measure of attitudes towards aspects of physical education.
4. To examine the meanings of the aspects of physical education along dimensions of favorability/unfavorability; potency/impotency activity/passivity.
5. To investigate the relative homogeneity of meaning that such aspects hold for each of the groups.

Six male groups were chosen from the community. The groups were:





- I Grade XI Boys.
- II First Year Physical Education Students.
- III Third Year Physical Education Students.
- IV Graduate Students.
- V Academic Staff.
- VI School Teachers.

The Grade XI boys and the school teachers were sampled from the Edmonton Separate Schools Board system. All the remaining groups were obtained from the University of Alberta, Edmonton. Those groups representing the graduate students and academic staff did not include students or staff from the Faculty of Physical Education. None of the school teachers was engaged in physical education.

All groups were asked to complete 25 scales of the Semantic Differential on each of the following aspects of physical education:

1. The Faculty of Physical Education.
2. The Male Physical Educator.
3. The Female Physical Educator.
4. The Physical Educator as Coach.
5. The Degree of Bachelor of Physical Education.

The sample consisted of 50 subjects from each group selected by random sampling from the group population. This yielded a total of 300 subjects responding on 25 scales across 5 aspects.

The data were collected during April and May, 1967 and were later subjected to both factor and statistical analyses.

Principal Axis and Varimax rotation were the forms of factor analysis



used to provide evidence for the regrouping of the Semantic Differential scales into dimensions labelled Evaluative, Activity, Potency, respectively. No more than four and no less than three factors with eigenvalues greater than 1.0 were found on any aspect. In all cases, the majority of the scales appeared on the evaluative dimension.

Eighteen scales were regrouped to form the evaluative dimension; three formed the activity dimension and four were included in potency dimension.

Statistical analyses were performed on the dimensions to investigate group homogeneity of meaning for the aspects. A standard deviation of 1.5 was set as the upper limit of homogeneity of response for each dimension.

The evaluative dimension was used as an index of attitude to serve the primary purpose of the investigation. Scale and dimension means were calculated and graphed to illustrate attitude trends and differences between the groups and among the aspects.

All computations were carried out on the University of Alberta IBM 7040 computer with the assistance of the Division of Educational Research computer program library.

Results obtained from the analyses were presented in tables and profiles of scale and dimension means were drawn from the information included in the tables.

## II. CONCLUSIONS

It was found that the Semantic Differential scales were readily factor analysed to produce a clearly defined evaluative factor and less





clearly defined factors labelled activity and potency respectively. The appearance of no more than four factors with eigenvalues greater than unity was encouraging support for the position taken by Osgood, et al. (29) on the nature of semantic space. The finding of a very strong evaluative dimension supported their contention that the instrument would be suitable as an index of attitude.

Most groups displayed homogeneity of meaning for the aspects within the limits set. Graduate Students and Third Year Physical Education students were relatively less homogenous in their meanings than were the other groups but they were generally within the set limits. On the basis of the results presented in Table XII it was concluded that homogeneity within each group existed for all aspects with the exception that the Academic Staff exceeded the limit by 0.1 on the aspect "The Female Physical Educator".

The evaluative dimension of the Semantic Differential provided the information for assessment of attitudes towards the various aspects under investigation. It was found that a pattern existed in the responses made by each of the groups towards the aspects, so that Grade XI Boys reported a very highly favorable attitude to every aspect, while Graduate Students revealed a generally neutral attitude.

Specifically, on all aspects Grade XI Boys held the most favorable attitudes based on dimension means for evaluation. They were followed by First Year Physical Education students, Academic Staff, School Teachers, Third Year Physical Education students and Graduate Students, in that order. The evaluative dimension means ranged from 1.8 to 4.2. That is, from highly favorable (maximum 1.0) to neutral (3.5 - 4.5).





It was apparent that there was considerable homogeneity of attitude within each group towards all of the aspects. There was a trend towards a more favorable regard for the P.E. Coach, especially among the Grade XI Boys and First Year Physical Education students. The Female Physical Educator does appear somewhat towards the neutral position on the continuum among Academic Staff and School Teachers, but this aspect, along with all the others, is subject to considerable overlap. Furthermore, she is rated favorably by all groups since no dimension mean exceeds 3.7. It cannot be said, therefore, that the groups clearly differentiated, in terms of evaluation, between any of the aspects.

Information regarding the direction and components of the attitudes registered by the groups was gained through inspection of the means for each scale.

The Faculty of Physical Education was generally found by all of the groups, with varying degrees of intensity, to be important, useful, good, (Graduate Students were sharply opposed with a mean of 4.6) enterprising, popular, likeable, successful and effective. There was a tendency to regard it as moderately professional and of doubtful academic standing.

Much the same pattern was displayed in the second aspect, "The Male Physical Educator", which was thought to be competent though not especially attractive. Otherwise, ratings were very similar to those of the Faculty of Physical Education.

With the exception that ratings were more variable across the groups, the highly regarded P.E. Coach profile on scale means was basically similar to the other aspects as was The Degree of Bachelor of Physical Education.



The physical education image which emerges appears to incorporate factors of interest, ambition, usefulness and importance. It is not regarded as particularly academic nor professional, but it is seen as comprising interest, intelligence and maturity. Four groups were very favorable to all the aspects of the image. Third Year Physical Education students were less certain of the high standing given to the profession by the four groups. The Graduate Students were less favorably disposed than any other group and expressed moderately unfavorable attitudes in a number of cases.

While physical education appears to be very favorably regarded by members of the sample, it is significant that the concern expressed by the contributors to professional journals is somewhat justified in regard to the academic standing of physical education. The academic - non-academic scale consistently showed less favorable ratings relative to the other scales. The question of whether physical education requires an academic image is not an issue in this study. Further, only one group actually expressed an unfavorable attitude on the academic scale. Nevertheless, if an academic image is desired, it seems clear that the profession presently lacks such an image.

### III. RECOMMENDATIONS

Further study might be profitably conducted in three areas relevant to the present investigation. The first of these is concerned with the factor analysis of the Semantic Differential scales. The appearance of a fourth factor in a number of the aspects suggests the possible presence of a fourth dimension of semantic space. Scales which tended to load on this







factor might be added to marker scales not included in the present study and subsequently factor analysed.

The evaluative dimension scales might be re-analysed as a separate set of data. The very strong evaluative factor in this study contains a number of scales which had moderate loadings on the other factors. Re-analysis of the scales should give rise to a subdivision of the evaluative dimension into various types of evaluation which could be identified by the scales appearing on the factors which arise.

A second area of future research lies in the results of the statistical analyses. It was seen that groups reacted with very little differentiation between the aspects. A future study could examine aspects of physical education which bore little superficial resemblance to each other. For example, "Physiology of Sport" may be presented, in the same study as "Gymnastics". This may result in increased differentiation by groups and would thus provide a basis of comparison across groups.

In view of the pattern of differing evaluation found among groups connected with education, a study employing the same scales but directed at professional or business groups within the community could add further definition of the physical education image.

Finally, the group of Third Year students indicated a moderate disaffection with physical education. This very important group should be further investigated to determine the extent and cause of this tendency. Since 1967-1968 will provide a four-year physical education degree program it is suggested that the scales administered in this study be used early in the first year, at the end of the second year and prior to graduation.



This may reveal changes in attitude and could be useful in both administration and public relations.

The present study indicates that a very favorable attitude towards the profession exists among the majority of the samples. Reasons for the less favorable attitudes of the minority remain to be determined and this too constitutes an area of future research. At present, however, a most pressing need would seem to be further and broader investigation of the Graduate Student group attitudes so that its presently neutral ratings might be clarified and subsequently improved.

In conclusion, the physical education image might be said to fall short of maximum rating especially in regard to its academic and professional components. Otherwise, it has been shown to possess a high degree of general favor among the groups investigated in this study.



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## APPENDICES

### APPENDIX A

The following information is for the purpose of providing a reference for the reader.

The following is a list of the items included in the Appendix.

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## APPENDIX A

### INSTRUCTION SHEET

The purpose of this study is to investigate reactions to aspects of Physical Education

You are asked to rate each aspect on the following scales.

#### INSTRUCTIONS:

If you feel that the aspect at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

honest X :\_\_ :\_\_ :\_\_ :\_\_ :\_\_ :\_\_ dishonest

OR

honest \_\_ :\_\_ :\_\_ :\_\_ :\_\_ :\_\_ :X dishonest

If you feel that the aspect is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

honest \_\_ :X :\_\_ :\_\_ :\_\_ :\_\_ :\_\_ dishonest

OR

honest \_\_ :\_\_ :\_\_ :\_\_ :\_\_ :X :\_\_ dishonest

If the aspect seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

honest \_\_ :\_\_ :X :\_\_ :\_\_ :\_\_ :\_\_ dishonest

OR

honest \_\_ :\_\_ :\_\_ :\_\_ :X :\_\_ :\_\_ dishonest

If you consider the aspect to be neutral on the scale, both sides of the scale equally associated with the aspect, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check-mark in the middle space.

honest \_\_ :\_\_ :\_\_ :X :\_\_ :\_\_ :\_\_ dishonest

#### IMPORTANT

Place your check-marks in the middle of spaces, not on the boundaries.

THIS X NOT THIS

X :\_\_ :\_\_ :\_\_ :\_\_ :\_\_ :\_\_

Be sure you check every scale for each concept. DO NOT OMIT ANY.

Never put more than one check-mark on a single scale.



## APPENDIX B

### SEMANTIC DIFFERENTIAL

#### THE FACULTY OF PHYSICAL EDUCATION

interesting	___:___:___:___:___:___:___	boring
competent	___:___:___:___:___:___:___	incompetent
unfair	___:___:___:___:___:___:___	fair
important	___:___:___:___:___:___:___	trivial
weak	___:___:___:___:___:___:___	strong
ambitious	___:___:___:___:___:___:___	not ambitious
attractive	___:___:___:___:___:___:___	repulsive
rigid	___:___:___:___:___:___:___	flexible
hardworking	___:___:___:___:___:___:___	lazy
follower	___:___:___:___:___:___:___	leader
useful	___:___:___:___:___:___:___	useless
bad	___:___:___:___:___:___:___	good
mature	___:___:___:___:___:___:___	immature
professional	___:___:___:___:___:___:___	non-professional
enterprising	___:___:___:___:___:___:___	unenterprising
popular	___:___:___:___:___:___:___	unpopular
secure	___:___:___:___:___:___:___	insecure
unintelligent	___:___:___:___:___:___:___	intelligent
masculine	___:___:___:___:___:___:___	feminine
dislike	___:___:___:___:___:___:___	like
non-academic	___:___:___:___:___:___:___	academic
unprejudiced	___:___:___:___:___:___:___	prejudiced
active	___:___:___:___:___:___:___	passive
successful	___:___:___:___:___:___:___	unsuccessful
effective	___:___:___:___:___:___:___	ineffective





## THE MALE PHYSICAL EDUCATOR

interesting	___:___:___:___:___:___:___	boring
competent	___:___:___:___:___:___:___	incompetent
unfair	___:___:___:___:___:___:___	fair
important	___:___:___:___:___:___:___	trivial
weak	___:___:___:___:___:___:___	strong
ambitious	___:___:___:___:___:___:___	not ambitious
attractive	___:___:___:___:___:___:___	repulsive
rigid	___:___:___:___:___:___:___	flexible
hardworking	___:___:___:___:___:___:___	lazy
follower	___:___:___:___:___:___:___	leader
useful	___:___:___:___:___:___:___	useless
bad	___:___:___:___:___:___:___	good
mature	___:___:___:___:___:___:___	immature
professional	___:___:___:___:___:___:___	non-professional
enterprising	___:___:___:___:___:___:___	unenterprising
popular	___:___:___:___:___:___:___	unpopular
secure	___:___:___:___:___:___:___	insecure
unintelligent	___:___:___:___:___:___:___	intelligent
masculine	___:___:___:___:___:___:___	feminine
dislike	___:___:___:___:___:___:___	like
non-academic	___:___:___:___:___:___:___	academic
unprejudiced	___:___:___:___:___:___:___	prejudiced
active	___:___:___:___:___:___:___	passive
successful	___:___:___:___:___:___:___	unsuccessful
effective	___:___:___:___:___:___:___	ineffective



## THE FEMALE PHYSICAL EDUCATOR

interesting	___:___:___:___:___:___:___	boring
competent	___:___:___:___:___:___:___	incompetent
unfair	___:___:___:___:___:___:___	fair
important	___:___:___:___:___:___:___	trivial
weak	___:___:___:___:___:___:___	strong
ambitious	___:___:___:___:___:___:___	not ambitious
attractive	___:___:___:___:___:___:___	repulsive
rigid	___:___:___:___:___:___:___	flexible
hardworking	___:___:___:___:___:___:___	lazy
follower	___:___:___:___:___:___:___	leader
useful	___:___:___:___:___:___:___	useless
bad	___:___:___:___:___:___:___	good
mature	___:___:___:___:___:___:___	immature
professional	___:___:___:___:___:___:___	non-professional
enterprising	___:___:___:___:___:___:___	unenterprising
popular	___:___:___:___:___:___:___	unpopular
secure	___:___:___:___:___:___:___	insecure
unintelligent	___:___:___:___:___:___:___	intelligent
masculine	___:___:___:___:___:___:___	feminine
dislike	___:___:___:___:___:___:___	like
non-academic	___:___:___:___:___:___:___	academic
unprejudiced	___:___:___:___:___:___:___	prejudiced
active	___:___:___:___:___:___:___	passive
successful	___:___:___:___:___:___:___	unsuccessful
effective	___:___:___:___:___:___:___	ineffective



## THE PHYSICAL EDUCATOR AS COACH

interesting	___:___:___:___:___:___:___	boring
competent	___:___:___:___:___:___:___	incompetent
unfair	___:___:___:___:___:___:___	fair
important	___:___:___:___:___:___:___	trivial
weak	___:___:___:___:___:___:___	strong
ambitious	___:___:___:___:___:___:___	not ambitious
attractive	___:___:___:___:___:___:___	repulsive
rigid	___:___:___:___:___:___:___	flexible
hardworking	___:___:___:___:___:___:___	lazy
follower	___:___:___:___:___:___:___	leader
useful	___:___:___:___:___:___:___	useless
bad	___:___:___:___:___:___:___	good
mature	___:___:___:___:___:___:___	immature
professional	___:___:___:___:___:___:___	non-professional
enterprising	___:___:___:___:___:___:___	unenterprising
popular	___:___:___:___:___:___:___	unpopular
secure	___:___:___:___:___:___:___	insecure
unintelligent	___:___:___:___:___:___:___	intelligent
masculine	___:___:___:___:___:___:___	feminine
dislike	___:___:___:___:___:___:___	like
non-academic	___:___:___:___:___:___:___	academic
unprejudiced	___:___:___:___:___:___:___	prejudiced
active	___:___:___:___:___:___:___	passive
successful	___:___:___:___:___:___:___	unsuccessful
effective	___:___:___:___:___:___:___	ineffective





## THE DEGREE OF BACHELOR OF PHYSICAL EDUCATION

interesting	___:___:___:___:___:___:___	boring
competent	___:___:___:___:___:___:___	incompetent
unfair	___:___:___:___:___:___:___	fair
important	___:___:___:___:___:___:___	trivial
weak	___:___:___:___:___:___:___	strong
ambitious	___:___:___:___:___:___:___	not ambitious
attractive	___:___:___:___:___:___:___	repulsive
rigid	___:___:___:___:___:___:___	flexible
hardworking	___:___:___:___:___:___:___	lazy
follower	___:___:___:___:___:___:___	leader
useful	___:___:___:___:___:___:___	useless
bad	___:___:___:___:___:___:___	good
mature	___:___:___:___:___:___:___	immature
professional	___:___:___:___:___:___:___	non-professional
enterprising	___:___:___:___:___:___:___	unenterprising
popular	___:___:___:___:___:___:___	unpopular
secure	___:___:___:___:___:___:___	insecure
unintelligent	___:___:___:___:___:___:___	intelligent
masculine	___:___:___:___:___:___:___	feminine
dislike	___:___:___:___:___:___:___	like
non-academic	___:___:___:___:___:___:___	academic
unprejudiced	___:___:___:___:___:___:___	prejudiced
active	___:___:___:___:___:___:___	passive
successful	___:___:___:___:___:___:___	unsuccessful
effective	___:___:___:___:___:___:___	ineffective











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